

Case 10. Class 80
LIBRARY 582

Department of Agriculture.

Case

Shelf



THE
JOURNAL OF HORTICULTURE,
COTTAGE GARDENER,
AND
HOME FARMER.

A CHRONICLE OF THE HOMESTEAD, POULTRY-YARD, APIARY, & DOVECOTE.

LIBRARY
NEW YORK
BOTANICAL
GARDEN

CONDUCTED BY

GEORGE W. JOHNSON, F.R.H.S., AND ROBERT HOGG, LL.D.

THE FRUIT and KITCHEN GARDENS, by Mr. J. MUIR; and Mr. W. TAYLOR.

THE FLOWER GARDEN, by Mr. E. LUCKHURST; and Mr. J. MOORMAN.
STOVE, GREENHOUSE, and WINDOW GARDEN, by Mr. G. ABBEY;
and Mr. W. H. GOWER.

FLORISTS' FLOWERS and FLORICULTURE, by the Rev. H. H. D'OMBRAIN; and Rev. J. B. M. CAMM.

POULTRY-KEEPING, by Mr. J. BAILY; and E. HEWITT, Esq.

PIGEONS, AVIARY BIRDS, &c., by "WILTSHIRE RECTOR; Mr. BARNESBY, and others.

BEE-KEEPING, by "B. & W."; and Mr. A. PETTIGREW.

HOUSEHOLD ARTS, by several Ladies.



Note: This is v. 60 (2. price and n. v. 34. N.S.)

VOLUME XXXIV., NEW SERIES.

VOL. LIX., OLD SERIES.

LONDON:

PUBLISHED FOR THE PROPRIETORS, 171, FLEET STREET,

1878.

XJ

0912

1878

July/Dec.

LONDON:

PRINTED AT THE JOURNAL OF HORTICULTURE OFFICE,
171, FLEET STREET

LIBRARY
NEW YORK
BOTANICAL
GARDEN

TO OUR READERS.

— x —

IN vain have we tried to compose something new for this our periodical address; we must therefore hope that you will accept our thanks for your continued and increased encouragement. It enables us to go on cheerfully and with renewed resolution to use our best powers, and to spare no outlay for obtaining the earliest and most reliable information relative to our legitimate subjects. "When I have endeavoured to be successful I am contented," were the words of a modern statesman, and as we think he was correct we venture to adopt those words and to feel as he does.

THE EDITORS.

FEB 17 1913



INDEX.

to the
Volume

- ABERDEEN, BON-ACCORD BIRD SHOW, 40;** Horticultural Society, 300
- Aberdeenshire,** weather in, 284
- Abutilons, ornamental,** 168
- Acothanthus spectabilis,** 375
- Aconitum,** 38
- Adelaide Botanic Garden Catalogue,** 411
- Adiantum palmatum,** 31
- Adulterations, detection of,** 291
- Agrides, descriptions of,** 430; various, 484
- Aeschynanthus,** in pots, 260; splendens, 48
- Agricultural Show, proposed international in London,** 215, 291
- Alexandra Palace, Bird Show, 118, 178;** Rose Show, 222, 481, 488
- Alan, Mr. J. P.,** 134
- Almond trees,** 222
- Alströméria chilensis,** 413
- Alternanthera green,** 116
- Alyssum Wierzbickii,** and culture, 464
- Amaryllises, culture,** 189, 477; a plea for, 374; repotting, 441; seedling, 413; watering, 389
- American blight,** 63
- American, harvest prospects,** 439; corn crop, 475; exports to England, 99
- Amaryllis, prizes for,** 260
- Amateur, 186, 288;** defined, 281
- Anaplois lacerata,** 72
- Annual flower management,** 261
- Annals, sowing hardy and half-hardy,** 267, 287; and their culture, 319; distasteful to slugs, 348; at Regent's Park, 461
- Anthurium, Andreanum,** 37, 86; tricolor, 71
- Antirrhinums, preservation of,** 45
- Ants, 247; r. aphides,** 181, 112, 323; banishing, 231, 343; in greenhouse, 55; preserving aphides, 219
- Aphis, destroying,** 397, on Peach trees, 382
- Aponogeton distachyon** from seed, 363
- Apple, notes on,** 84; tree ornamental, 65; grafting old, 75; blooming season, 5; trees in pleasure ground, 6; trees cankered, 130; tree grub, 389; trees unfruitful, 399
- Apples, winter, 17;** for orchards, 27; for market, 29; market, Baiton Free-Bearer, 45; and Apple trees, 50; protecting, 218; Northern Spy, 280
- Aquatic plants,** 325
- Araucaria Cookii,** 209
- Araucarias, large,** 15, 34
- Arbutus, fruiting,** 95; Uncdo in Yorkshire, 37
- Arrangement of flower beds,** 45
- Artichoke culture,** 249
- Arum crinitum insectivorous,** 483
- Asparagus, beetle,** 108; culture, 217, 240, 261, 283, 294, 433; cutting, 340, 349, 363; forcing, 74; planting, 470; prizes for, 300, 423
- Azalea polata,** 270
- Auricula culture, National,** 163, 370
- Auriculas, 263, 318;** hardy, 75; woolly aphis, 83, 182; culture, 94; at Slough and Loxford, 316; culture, 304, 397, 321; showing, 333, 357, 373; forced, 338; Crystal Palace, 340; Manchester Show, 336, 360; propagation, 343; repotting, 322; drying, 363; Society's Show, 371; at Failsworth, 431; striped, 470
- Azalea Souvenir du Prince Albert,** 166
- Azaleas, culture,** 343, 435; in December, 3; after flowering, 392; at Fulham, 383; Ghent Excellence, 114; liquid manure for, 55; mollis, 212; propagating, 212; white for forcing, 212; unhealthy, 288
- BALSAM CULTURE,** 205, 400
- Bamboo, in Annam, "Commercial Plants,"** 223; not growing, 343
- Bantams, 347, 383;** varieties of, 420
- Bark of tree, removing,** 288
- Barley cultivation, 1, 4, 155, 174**
- Bast, 471**
- Bath and West of England Poultry Show, 196, 320, 384, 457;** Flower Show, 452, 467
- Bause, Mr. F.,** 108
- Beans, Broad, 111;** dwarf for small garden, 116; experiments with Scarlet Runners, 225
- Bedding-out, 324, 361;** stock for, 239
- Bedding plant arrangement, 339**
- Bedding plants, preparing,** 212
- Bee-keepers' Association Show, 492**
- Bees—keeping, past, present, and future, 23;** keeping in Kansas, removing hives, 42; warmth and ventilation, 60; size of bar-framed hive, feeding, dysentery, fallen comb, unting swarms, 80; mortality, 98; feeding, wintering, 99; Scotch Society, 119; bar-framed hives, 120; wintering, bar-frame hive, 140; chloroforming, wintering, ventilating, introduction of Ligurian, 150; "The Apary," weak hives, deserted hive, stings, 160; wintering, 176; Ligurian history, 177; sting remedy, apiary work, 178; wintering, 186; feeding, bar-framed hives, 197; mice in hive, 215; wintering, 216; Italian r. British, 235; spring overhauled, crooked combs, 236; in California, 253; Ligurian, swarming r. non-swarming, 254; bar-framed hive management, 273; swarming r. non-swarming, feeding, 274; Ligurian r. black, 281; notes on ancient writers, 292; in America, husbandry of, 311; natural death of, 312; dying, 329; husbandry of, 330; this season, for profit, 347, 348; transferring, 348; hives, swarming r. non-swarming, 367; feeding, 368, combs in hives, 368; bar-framed box r. straw hives, 385; ligurianising, 386; dividing, wintering, bar-frame hives, 404; management of, 421; bar-frame hives, cking of, east-out of hive, comb foundations, 422; unfavourable seasons, 439; early swarms, 439; feeding, 440; prospects, 440; tapping flowers, 458; seasons of 1877 and 1878, 458; and beans, 475; comb foundations, 475; hive chloroformed, 476; strengthening, 476; royal cells, 476; four swarms, 483; pasture for, 486
- Beet, culture,** 315; sowing, 305
- Benias, Fra-Belli, 15;** Moonlight, 69; Saundersii semperflorens, 166; tuberous-rooted, 101, 149, 391; cuttings, 269; cuttings of tuberous-rooted, 307
- Belladonna Lily planting,** 343
- Berberis Darw**
- Besleria Inura,** 71
- Biennial defined,** 436
- Biennial flowers, sowing,** 379
- Bignonia, insects on,** 136
- Bilbergia pallescens,** 171
- Birch tree, large,** 68
- Bird house,** 160
- Birds, training,** 121
- Birmingham Columbian Society's Show,** 20
- Birmingham Cattle and Poultry Show,** 273, 323
- Bitter Vetch,** 433
- Blackleg in cattle,** 418
- Blasting tree stumps,** 219
- Blind outside,** 153
- Blossom, impregnating,** 16
- Blue flowers for bedding,** 227
- Boiler, Richardson's,** 297
- Bone manure,** 75
- Bones, dissolving,** 193; for manure, 364
- Border flowers, 93, 109, 116, 163, 205, 264, 294, 337, 433**
- Boronia and culture,** 430
- Botanic Society (Royal), 68;** Show, 241, 318, 331, 447
- Botanical Exchange Society,** 281
- Bouvardia culture,** 277, 322
- Box hedge,** 75
- Brahma, cockerel,** 140; feeding, 100
- Brahmas, lame,** 274
- Briers, stocks,** 303
- Bridge Hall,** 330
- Bristol Horticultural Show,** 248
- Bristol Poultry Show,** 196
- Broccolis, for succession,** 37; culture, 82; transplanting, 92, 105; sowing, 249, 324; Sutton's Late Queen, 284; culture, 341; Knight's Protecting, 357; abundant, 393
- Brussels, 45;** and culture, 10
- Brussels Sprouts,** 102
- Budding, quill,** 459
- Bulbs, removing,** 36
- Burnham Beeches,** 270
- Butter, from Holland,** 215; origin of, 347
- Butterflies, 300;** early, 88
- CABBAGE CULTURE,** 122
- Cabbages for London,** 393
- Calceolarias, herbaceous,** 376
- Caledonian (Royal) Horticultural Society,** 303
- California, seeds from,** 465
- Calves, rearing of,** 382, 399
- Camellias, shedding buds,** 37; in December, 3; not flowering, 75; potting, 94; culture, 133; shading, 167; leaves sticky, 168; at Waltham Cross, 248; cutting down, 231; leaves falling, 231; large, 281; culture, 483; management of, 455
- Canaries, high-coloured, 494;** treatment, 48
- Canary-breeding roter,** 272; feather-347
- Canizaro House, Wimbledon, gardening at,** 210
- Carbolic acid disinfectant,** 254
- Cardamine pratensis, double,** 418
- Carnation and Picotee Society,** 10, 286; Show, 378
- Carnation, layers,** 193; La Belle, 379
- Carnations, in pots,** 94; in the north, 334; select, 249
- Carpet-bedding, 436;** plants, 115, 116, 471
- Carrier Pigeon,** 22
- Carrots, culture,** 143; early, 134; forcing, 114; field-culture of, 270
- Carter & Co.'s prizes,** 37
- Cassia corymbosa culture,** 362
- Caterpillar, vegetable,** 130
- Caterpillars, their colours,** 235
- Cattle for profit,** 273
- Cauliflower, culture,** 61, 164; for succeding, 37
- Ceanothus rigidus,** 300
- Cedars, felling,** 470
- Celery culture,** 47, 256, 276, 286, 397; planting, 324, 361; sowing, 114
- Cemetery, arrangement,** 468; planting, 115
- Centenarian's death,** 242
- Cephalotes foliolaris,** 128
- Chalk, trees and plants on,** 137
- Channel Islands,** 79
- Charcoal manure,** 99
- Chatsworth Gardens,** 372
- Cheeses, fancy,** 367
- Chelone obliqua,** 15
- Chesnuts, forcing,** 135, 323; management in house, 211; house, 287; Morello standards, 64; orchards, 324
- Cherry house management,** 362
- Chestnut Sunday,** 379
- Chicken coop, a simple,** 39
- Chicken's crop distended,** 386
- Chickens, management 439, of spring,** 271
- Chickweed as a barometer,** 42
- Chionodoxas,** 220
- Chorozomas,** 166
- Christmas Rose,** 187
- Chrysanthemum (Putney) Society,** 134
- Chrysanthemums, early-flowering,** 6, 15; late-flowering, 34; notes, 40; late-blooming, 62; late, 63, 88; in pots, 340, 398; in winter, 143
- Cineraria flowers discoloured,** 363
- Cinerarias, Cape, 436;** culture, 224; new, 243; withering, 251
- Classes at shows,** 55
- Clematis, sowing,** 75; show, 360
- Clematises, light-coloured,** 37; for wall, 231
- Clerodendron, Balfourianum,** 136; in August, 75; fragrans culture, 470
- Climbers, summer-flowering,** 56; badly, 72
- Clover, culture,** 251; and grass culture, 232
- Clubbing of Cabbagewarts,** 37
- Cochins, feeding,** 160
- Cocoa-nut fibre refuse,** 75
- Coconut plantation,** 228
- Colour arrangement in beds,** 251
- Conifery, Prickly,** 105; culture, 214, 235, 309, 455
- Composts, root-producing,** 109
- Conoclinium lanthimum,** 203
- Conservatory, management of,** 211; heating, 212
- Coop for fowls,** 39
- Cooper, Mr. S.,** 33
- Cordiceps Robertsii,** 130
- Corn averages,** 273
- Cornish gardens,** 109
- Cotton cake for cattle,** 130
- Covent Garden Market, 24, 42, 60, 80, 100, 120, 140, 160, 178, 198, 216, 236, 254, 274, 292, 312, 330, 348, 368, 380, 404, 422, 440, 476, 493**
- Cow, characteristics of good,** 235; and pig, 254
- Cows, kicking,** 20; best for dairy, 41; food for, 98; management, 99, 308; feeding, 159; quick milking, 273
- Crassula culture,** 381
- Crataegus pyracantha,** 72
- Crinum Verschaffeltianum,** 391
- Crocuses and pheasants,** 263
- Crop valuation,** 397
- Crops, near London,** 242, prospect of, 463
- Crossandra guineensis,** 171
- Crotons not flowering,** 343
- Crowtoots,** 204
- Cryptomeria japonica, large,** 108
- Crystal Palace, 166;** Bird Show, 195; Show, 411
- Cuckoo flower double,** 378
- Cumbees—bed making,** 73; culture, 115, 269, 388, 390, 434; earliest, 222; for exhibition, 470; failing, 436; failures, 167, 270; fire-heating house, 17; forcing, 36, 192, 230, 342, 388; in greenhouse, 115; mealy bug on, 95; liquid manure for, 399; planting, 192; in March and April, 399; ridged, 362; roots diseased, 17, 25; for seed, 471; soil for, 308; sowing, 55; unhealthy, 74; Woolley's Telegraph, 264
- Curraut, trees, moving large,** Black barren, 75; pruning, 93
- Cuttings, 239;** propagation by, 179
- Cyathus, forcing,** 135, 467
- Cyclamen, lecture on,** 134
- Cyclamens, 285;** double, 288; from seed, 184
- Cydonia japonica,** 399

- Cypripedium Boxallii, 145
Cypripediums, and culture, 184
- DAHLIA, CULTURE, 467; CUTTINGS, 191**
Dairy, management, 308, 326, 382; in America, 329; for butter, 289
Daisy, 116; propagation, 436
Dale testimonial, 107
Damping-off, 327
Daphne, cneorum, unhealthy, 115; indica rubra, 166
Darlington Bird Show, 79
December flowers, 31
Delphiniums, exhibiting, 331
Delphinium Freemanii, 145
Dendroseris macrophylla, 334
Dentzia gracilis, culture, 251, 325; pruning, 307
Dew, 43, 62, 107
Diary, 17
Dianthus in California, 484
Dictamnus rubra, 264
Digging, 275, 322
Dipladenia culture, 122
Dorchester Poultry Show, 77
Dorsetshire Bee-keepers' Association, 498
Dormouse, 348
Dracenas, Bausei, 283; terminalis a room plant, 166; from seed, 149
Draining, 76
Drip, 55
Ducks, rearing, 273; v. slugs, 425
Dundee Horticultural Society, 107
Duneevan, Vines at, 429
Dungs for manure, 239
Durham florists, 461
Durham and Northumberland floriculture, 186
Durham and Northumberland Horticultural Society, 278
- EARLY WOOD POULTRY-YARD, 402**
Easter decorations, 324
Eremocarpus from seed, 115
Echeveria retusa, and culture, 188
Echeverias, seedling, 116
Edinburgh Flower Show, 321
Egg production, 79
Egg-producers, profitable, 80
Eggs, in winter, 21; weight of, 59; dried, 99; ill-flavoured, 120; for selling, 139; imported, 140; scarcity of, 215; differing in colour, 216; size of, 235; large, 312; preserving, 422
Entomological exhibition, 246
Euparises for early flowers, 242
Ergot causing disease in cows, 308
Erica, calidissima as a decorative plant, 47; vagans culture, 153
Erinas, 150, 376; propagating, 431
Escallonia macrantha, 249; culture, 297
Essex Horticultural Society's Show, 452
Eucalyptus globulus, 242, 470
Eucharis amazonica, culture of, 204; fine, 149, 166; repotting, 136; weak, 74
Euphorbia splendens, culture, 470
Evergreens, pruning, 325
Ewes and lambs, management of, down, 116, 137
- FARM-HOUSE MANAGEMENT, 56**
Farm-work on the home, 57, 76, 96, 117, 138, 155, 175, 194, 214, 222, 232, 271, 290, 309, 327, 345, 364, 383, 400, 420, 437, 456, 472, 491; work, seasonal, 117; large American, 158; schools, German, 176
Fasciation, 17
Fattening animals, 158
Feather cloth, 176
Fern, culture, 173; crested, 174; hybrid, 108; Royal, 307; sowing, 93
Ferneries, hardy, 313
Fernery, 191
Ferns, British, 313; for glass case, 331; repotting, 35; shading, 343, 377; stove, 342; Tree, 374; withering, 195
Fertilised Moorei, 354
Figs—and its blossom, 89; culture, 250, 287, 305, 325, 361, 434; forcing, 336; in pots, 34, 153, 192; soil for, 136; as standards, 184; tree unproductive, 231
Fir, large Silver, 430
Fire-lighting, 198
Fish-ponds, 191
Fishes in fowl house, 356
Flora of a former age, 243
Flower Mission, Bible, 483; American, 483
Flower, beds arrangement, 231, 269, 288, planting circular, 326, manure for, 332; garden, 210, management of, 210; shows and judging, 81; pots, self-registering, 431
Flower show, a people's, 337
Flowers, economic uses of, 9, 112; preserving cut, 149; hardy in January, 205; planting out, 398
Food, warm, 59
Footpath in April, 302
Fountain, Rev. J., 62
Fowls, in France, 20; water for, 41; food required by, 80; crossing, 89;
- FOWLS—Continued.**
Selecting stock, 100, 140; losing feathers, 160; trespassing, 178; not laying, 212; management and feeding of, 216; for profit, 343
Fraxinella culture, 343
Fries, Professor, 149
Frost and snow, poultry in, 96
Fruit, trees, pruning, 55, 111, 121, 223, 316; trees, for small garden, 55; making pyramids, 56, for shady place, 56, for south wall, 56; tree protection, 67; trees, grafting old, 132; trees, ornamental, 167; blossoms, protecting, 203; garden, management of, 210; houses, management, 211; prospects, 388, 242, 256, 287, 302, 330, 357, 371, 430, 478; crops, American, 300; trees, for planting in summer, 270; trees, training pyramidal, 333, thinning, 361; damage to trees in Kent, 356; tree training, 417; disappearing, 428, 452, 465, in Wilt, 448, in Gloucester, 449; and corn prospects, 466, 475; trees, destroying insects on, 454
Fuchsias, racemosa, 108; serratifolia culture, 307; insects on, 363; in pots, 340; select, 471
Fungus, fossil, 84
- GAPES, 366; IN DUCKS, 98; PREVENTION, 404**
Garden notes in 1877, 127, 284
Gardenias, culture, 470; cut flowers, 281; buds dropping, 307; management, 306, 212
"Gardener's Assistant," 9
Gardeners' Royal Benevolent annuities, 87
Gardeners, prizes for under, 378
Gas, in conservatory, 153; lime manure, 173
Genista racemosa culture, 301
Gentiana acaulis, culture, 433; soil, 471
Geraniums—diseased, 436; in turves, 37; Vesuvius, 379; White Vesuvius, 116
German paste, 47
Geum coccineum flore-pleno, 389
Ghent International Exhibition, 248, 257, 279
Giadioli, 186; failures, 300
Giadioli, corms, hitting, 17; culture of and disease, 201
Giadioluses, 236
Glamorganshire plants, 393
Glaserin notes, 189
Glastonbury Thorn, 338
Glaucaium luteum, 166
Glaized structures adjoining the house, 55
Glazing, without laps or putty, 48; without putty, 251, 303
Globeflowers, 146
Gloxinia, potting, 36
Gloxinias, 376, 388, 465; propagation of, 455; seed saving, 436; select, 174
Golden Feather, 116
Gooseberry, trees, moving large, 75; pruning, 33
Goslings, sex of, 42
Grafting, 268, 436
Grain, export of, 41
Grapes, Mrs. Pince's Black Muscat, 4; serviceable, 7; keeping, 34, 43, 62, 83, 107, 128, 166, 210; Gros Colman, 37; Duke of Buccleuch, 81, 109, 125, 142, 162, 181, 220, 429; heaviest bunch, 251; diseased, 455; forcing, 132; in unheated house, 441; growing, profitable, 483; ripening, 230, 417; setting, 114; spotted, 490; stoning, 363
Grass of Parnassus, 337
Grasses, ornamental, 249; useful culture, 231
Grave, plants for, 212
Green fly, destroying, 288
Greenhouse, bed, heating, 174; heating, 231; heating small, 75; pit heating, 95; management, 288; plant prize, 470; shelving, 418
Gravel, Moorei, 354
Grub-picker, 171
Grubs, 281; destroying, 427; in soil, 55
Guano, water for vinery, 115; Peruvian, 176
Gum for flowers, 136
- HACKNEY CHRYSANTHEMUM SHOW, 210**
Hamantus albo-maculatus, 145
Hampton Court, Limes at, 338
Hand labour, 155, 321
Hardening off, 331
Hare and Rabbit hybrid, 98
Hay, making, 471, 475, 490; prices, 273
Heaths, Cape, 25, 150, 226, 305, 376, 466
Hedges, farm, 437; insect injuring, 436; management of, 76
Henning, death of, 76
Hens diseased, 404
Herbaceous plants, 418; list of, 212
Herbarium specimens, preserving colour, 58
Herfordshire orchards, 423, 460
Hollies, conservatory at the, 429
Hollies at Coombe Bank, 210
- Holly, blossom, 303; hedges, 280; leaves injured, 288; yellow-berried, 71
Holme Lacy, 10, 50
Home Farm, 17
Hoodia Bainesi, 224
Hoof-parings for Vines, 102
Hops in Kent, 119
Horse, labour, 155, 327; and hand labour, 117; flesh for food, 233; housing, 332; Annual General Meeting, 388
Horses, management of farm, 37; work for, 76
Horticultural Club, 34, 68, 280, 378
Horticultural (Royal) Society, 13, 390; Committees, 49, 146, 221, 260, 298, 390, 428, 464; General Meeting, 68; prizes offered, 87; Chiswick Garden, 87; 1878, 388; Annual General Meeting, 125; Preston Show, 133, 301, 337, 447; Mr. Jennings's lecture, 147; Meeting 183, 334; election of Fellows, 200, 410, 431; Journal of, 210, 280; Kensington Garden, 324; rules, 342; prizes, 378; Great Show, 407; Summer Show, 332, 420, 430; Peoples Flower Show, 445; Rose and Pelargonium Show, 462
Horticultural Society of Ireland, 337
Hortus siccus, 490
Hotbed, making, 35; a miniature, 361
Hot-water heating, 326
Houdans, feeding, 100
House sewage for manure, 354
Hoya imperialis buds falling, 37
Hyacinths, after flowering, 212; at Messrs. Veitch's, 246
Hymenanthra crassifolia, 13
- IBERIS, CILIATA, 244; NANA, 64**
Imports of cattle, 347
Imports, 59, 176
Inarching, 35
Incubation, artificial, 233, 252, 323
Incubators, 402
Indian fruit-culture, 53
Indiarubber plant, 68
Insects, destroying, 36; in gardens, 336; on fruit trees, 459; useful, 166
Ione paleacea, 171
Ionopodium acule culture, 343
Iresine Lindeni, wintering, 37
Iris cretensis, 171
Ironwork bronzing, 326
Ischarum angustatum, 334
Islepis, gracilis, 250
Ivy, 72; edging, 173
- JAPANESE, GARDEN, 369; PLANTS, 53**
Jardin d'Acclimatation, 76
Jarratt, Mr., 280
Jasmine buds falling, 55
Jasminum, didymum, 224; grandiflorum, 68
Jatropha pedagrica, 220
Jennings, Mr. S., appointment at Royal Horticultural Society, 52
Johnson, Mr. C. W., death of, 215, 234
- KALE CULTURE, 122**
Kalosanthos culture, 489
Kent Poultry Show, 97
Kew Gardens, 167, 264, 267, 323; novelties in, 145, 220, 299; time of opening, 202; admission of students and gardeners, 209, 226
Kynes, Mr. J., 149
Kilnchess Bank, 336, 340; culture, 337; forcing, 135, 152, 249; roots knobbed, 381; sowing, 358
Kidney Vetch, 205
"Kitchen Garden, The Amateur's," 106
Kitchen garden, cropping, 141; management of, 210
Koelesteinia graminea, 71
- LABELS FOR ROSES, 116**
Lachenalias, 184
Lachia furacea, 32
Lamb, management of, 116
Lancaster Poultry Show, 19
Landscape gardening, 5; hints on, 199, 244, 281, 338, 425
Langshan fowls, 156
Lapageria, rosca, 242, wild, 154; sickly, 231
Lark injured, 330
Leck culture, 23
Leckington's, J. W., villa garden, 245
Laurustinus, uncertain flowering, 15
Lawn, dressing, 152; grass coarse, 418; improving, 68; making, 151; management, 341
Lead pans, 476
Leases of farms, 79
Leek culture, 23
Legs, appointment of Mr., 379
Leicestershire Flora, 34
Lemon trees, value of, 418
Levellings, 251
Lice on poultry, 79
Lilies from seed, 165
Lilium, auratum culture, 56; cordifolium, 71; Theodora, 133
Liliums, 464; in pots, 269
Lily of the Nile, culture, 436; in winter, 17
- Lily of the Valley, 69; home-grown, 4
Lime, for garden, 172; application of to soil, 212; to use as manure, 347
Linums, 109
Liriodendron tulipifera wood, 387
Lobelias, from cuttings, 244; raising, 37
Lomaria gibba, 115
London extension, 280
London International Horticultural Exhibition, 453
Love Birds, 403
Loxford Hall Gardens, 393
Loxococcus rupicola, 375
Lucerne sowing, 309
- MADEIRA VINEYARDS, 53**
Magnolia for south wall, 17
Maidstone Rose Show, 337
Manchester National Horticultural Show, 242, 429, 444
Mangold, culture, 310, 343; manure for, 231
Manure, changing, 17; exposing, 140
Manures, liquid and solid, 41
Manuring, 275, 321
Marchal Niel Rose, 354
Market gardens and nurseries of old London, 147, 486
Marneck, portrait of Mr. R., 300
Mealy bug, destroying, 471
Meat, trade, American, 98, 233; imported, 235; production, 475
Melbourne Botanic Gardens, 394
Melon houses, 490
Melons, culture, 114, 192, 230, 260, 306, 308, 341, 362, 434, 469; failing, 471; fertilising, 423; soil for, 308; sowing, 55; temperature, 173
Memorial trees, 15
Mentha pulegium culture, 95
Messenger's wall protector, 304
Mice destroying bees, 215
"Midland Naturalist," 37
Mignonette, culture, 180, 267, 434; pot culture, 141, 251
Milk, 39; profit, 79; supply, 98; testing, 139, 367; increasing, 139
Mistletoe propagation, 55
Moffatt, death of Mr., 35
Moths in gardens, 396
Mowing machines, 294
Mulberry propagation, 471
Munching, 379
Murray, Mr. Andrew, death of, 54
Mushroom, beds, 417; characteristics, 398; culture, 74, 161, 286; spawn, 108
Myrobelia, 17
Myrtles, not flowering, 55; soil for, 343
- NAMES, POPULAR OF PLANTS, 263**
Narcissuses, 250
National Peristeric Society, 21, 40
National Rose Society, meeting of, 88
Nectarine, early, for orchard house, 37; tree pruning, 135
Nectarine, forcing, 268, 341, 417; failing, 399; in houses, 488; training, 306
Nemophila, discoidalis, 320; sowing, 116
Nepenthes culture, 342
Nertera, 95; depressa culture, 436
Nest egg, to make, 41
Nests, 366
Newcastle Show, schedule of, 209
New Zealand plants from seed, 268
Night soil, 53
Nikau Palm, 68
Nitrate of soda, applying, 364; use of, 212
Northumberland florists, 461
Nurseries, old London, 489
Nursery garden tenant, 326
Nuts, storing, 192
- OAKS OF BIRNAM, 228**
Oats, cultivation of, 213
Olds and ends, 263
Oleander buds falling, 75
Onion, native, 88
Onions, culture, 163, 203; for pickling, 396; sowing, 190, 488; Tree or Multiplying, 203
Orange, culture, 325; trees, value of 418; tree unhealthy, 115
Orchard house, 398; management, 55, 115, 125, 250, 342; routine, 489
Orchids, culture, 156, 230, 307, 342; not flowering, 73; choice garden, 450; imported by Mr. Bull, 383, in January, 31; at Kew, 183; Lord Londesborough's, 184; at Loxford, 323; management of, 454; select, 484; at Messrs. Veitch's, 242
Oreopanax Thibaultii, 71
Orbus vermis, 35
Osborn & Son's Nurseries, 222
Oxford, Flower Show at, 452
- PAINT FOR STOVE INSIDE, 261**
Paisley Poultry Show, 39
Palmus, 55; in pots, 307
Pampus Grass, after flowering, 193; transplanting, 323
Pandanus unguifer, 171
Pansies, dying in winter, 455; early planting of, 210; size of, 470

- Paraffin lamp for heating, 134; stove v. dices, 92, 261; stove for heating, 203; heating by, 436
 Parakeet's eyelids ulcerated, 348
 Paris, Universal Exhibition, 196, 329, 429; Poultry Show, 457, 473; jurors, 475
 Parrot self-plucked, 120
 Parsley culture, 385
 Parsnip culture, 180
 Pasturage influence, 119
 Pasture and park land management, 75, 95, 194
 Pastures, improving, 403
 Peaches—buds dropping, 56; Condor, 55; culture, 230; early, 37; forcing, 114, 143, 183, 208, 341, 390, 417; and Necrotic forcing, 192; in houses, 488, 490; for orchard house, 37; leaves blistered, 399; stoning, 363; tree training, 306; trees, pruning, 135, young, 95, 251
 Pea-fowls, 175, 195
 Pea for west wall, 136; trees, pruning, 247, 262; tree root pruning, 471; growing in Sussex, 432; for west wall, 136 [218
 Pears, at Holme Lacy, 88; protecting, 284, 286; for August, 270; culture, 44; dying off, 471; early, 64, 133, 145, 165, 184; forcing, 470; selection, 191; sowing, 47; for succession, 37
 Peat charcoal, 288
 Peat soil sandy, 489
 Pelargoniums, lilac zonal, 37; for exhibition, 95; zonal in winter, 143, 163; echinatum, 163; Joseph's, 223; stopping, 307; liquid manure for, 382; trusses divided, 399; for winter, 455
 Pencarrow, 69
 Perennial flowers from seed, 326
 Peristerone Show, 73; Society, 59; President's address, 137
 Perplexities, 395
 Petroleum antiseptic, 329
 Pheasants, and *Crocuses*, 281; management of Silver, 274
 Phippen & Co.'s nursery, 429
 Phloxes, select herbaceous, 95
 Phylloxera vastatrix in Australia, 134
 Pigeons, in the north, 334; in pots, 94
 Pigeon laying four eggs, 90, 96; prices at sale, 98; attaching, 100
 Pigeons—useful, 22; aspect of the fancy, 156; diseases, 157; influence of shows, 195; hints to amateurs, 250, 345, 401; Tumblers, 291; Baldheads, 291; for table, 310; food for Tumblers, 312; Pouters and Tumblers, 438
 Pigs, in America, 475; Berkshire, 99; charcoal for, 21; fattening, 159; feeding, 216; productions, 311
 Pilfering, 34
 Pine Apple culture, 134, 250, 287, 325, 362, 398, 434; potting, 172; Black Jamaica, 473
 Pines, notes on, 211
 Pinks, select, 249
 Pinus laricio not rabbit-eaten, 106
 Pipes, noise in hot water, 74
 Pipanthus nepalensis, 379
 Piraeus plants, Australian, 128; culture of, 212
 Plantain, destroying, 249
 Planting early, 71
 Plants, for a grave, 212; propagation and culture of, 211
 Platycerium, 394; Hilli, 395
 Platanus Gayana, 171
 Ploughing, rules for, 167
 Plum for west wall, 136
 Plunging material, 136
 Polyanthus, culture, 315; propagation, 343; seedlings, 222
 Pond-making, 346
 Ponds, green slime on, 382
 Pontardulais Poultry Show, 118
 Poppyworts, 163
 Potatoes, culture, 8, 29, 291; disease, 37, 46, 65, 84; estimate of disease, 41; crop in America, 41; exhibition, 68; in store, 73; sets needed, 74; imported, 88; extracts from soil, 99; wood ashes for, 116; from single eyes, 124; time maturing, 137; Breese's, 251; planting, 101, 212, 305; field culture, 193; Snowflake, 231; imported, 235, 311; produce of different, 235; estimate of kinds, 242
 Potting, 489
 Poultry Club, 119, 156, 196, 401, 491, 492
 Poultry, feeding, 21, 69; for profit, 29; in 1877, 38; keeping in 1877, 57; lice on, 59; houses, size of, 100; showing prospects, 117, 138; account book, 119; trespassing, 145; spring management of, 214; keeping, profit, 272; in towns, 310; origins, 346; prize, 365; feeding, 367; house, cleaning, 439; rearing, this spring, 466, 492
 Poultry shows, forthcoming, 290
 Preston Poultry Show, 39
 Primrose, Scarlet Chinese, 69
 Primula lewisii, 12, 17
 Primulas, anemone, 12, 17
 Primula of double, 370; after flowering, 303; scarlet, 95; sowing, 363; varieties, 149; Princess Louise, 209
 Protecting wall trees, 114
 Pteris, serrulata cristata major, 69; tricolor culture, 471
 Pterostylis Baptistini, 235
 Ptychosperma rupicola, 145
 Putty, to soften, 281
 Pyrethrum aureum laciniatum, 343
 QUAILS, 494
 Quarter evil, 418
 Quercus austriaca sempervirens 53
 RABBITS—BREEDING, 21, FOR COLOUR, 119; cross-breeding, 306, 384; selecting breed, 402; crosses, 310; Himalayan, 312; improvement of, 234; with litters, 474; management, 195; *versus* mutton, 20; trespassing, 174
 Radishes, early, 134
 Rainfall, 108, 112, 209; at Morpeth, 71; in 1877, 108
 Raisins, Sultanah, 17
 Ramble, a winter's, 205
 Ramunculus, culture, 136, 362; green, 399
 Raphiolepis ovata, 288
 Raspberries, 146; culture, 104, 168, 321, 385; longevity, 184; planting, 110; pruning, 430; removing, 219, 295; transplanting, 212
 Reading Horticultural Show, 413
 Reading Pigeon and Bird Show, 118
 Red paint, 399
 Red spider, destroying, 288
 Reigate Castle, 48
 Reigate Rose Show, 429
 Retrospect of horticultural year, 26
 Rhodanthe maculata, 320
 Rhododendrons, at Duncannon, 410; list of hardy, 192; flowering, 184; Early Gem, 209; precox, 222
 Ribwort, forcing, 93, 130; for forcing, 398
 Ribbon border, 269; plants, 75
 Richardia athiopica, 108, 416; after flowering, 362
 Richmond Horticultural Society, 15, 184
 Road levelling, 235
 Rocks, forcing, 379; plants for, 380
 Rondeletia odorata var. breviflora, 224
 Roofs, glazing and slating, 455
 Rooks, frustrating, 253, 403
 Root-crop culture, 385
 Root crops, thinning, 341
 Rose Society, National, 184; Meeting, 429
 Rose of Sharon, 363
 Rosella, 242
 Roses—jottings about, 4; arrangement and culture, 6; economic uses of, 9; Devonensis, 13; grafting, for exposed place, planting, 17; rubbish on, 28; midweek on, 30; time for root, 37; showing, 47; Cornelia Cook, 53; for south and west walls, 55; judging and classes, 64, 67; showing, 66; National Society, 68; zinc labels for, 69; sheltering, 73; select, 74; Marechal Niel planting, 75; Hybrid Perpetual for wall, 75; in 1877, 76; judging, 86; Chesnut Hybrid, 85; judging, 108, 133, 144, 165; extent of culture, 108; for walls, 73; pruning, for screen, 116; Society, 134; for smoky place, propagating Marechal stocks, aspect for Marechal Niel, 138; showing, 151; for smoky district, 149; pruning, 162; planting, 172; Madame Charles Wood, from cuttings, grafting, 174; Tea-scented, 179; judging, 182, 227, 238, 239, 243; judging, and qualities of, 239; management, 190; derivation of names, 192; in shade, 195; pruning, 218; select, 282; grafting, 280; white forcing, 242; show boxes, 244; exhibition points, 246; pruning, 250, 251; past and present, 255; judging, 261, 277, 296, 300; "Roses and their Culture," 260; in pots, shoots frosted, Duncannon, Edinburgh, 269; pruning, 270; origin of green, 280, 300; pruning Tea, 231; Gloire de Dijon, in pots, 288; extraordinary, 298; Marechal Niel, 301; box for, 307; midweek, 307, 326; injured by frost, 314; Marechal Niel, 326; petals preserving, 326; Marechal Niel, 333; Niel, 138; showing, 349; leaves diseased, culture, insect on, 343; characters of some, 363; greenhouse, 358; experiments with, 371; Gloire de Dijon, 375, 379, 399; Society's Show, 378; West of England Show, 378; stocks for, 379; Dunwich, 379; Tea, 387; prospects, 406; in pots, 416; aphids, 438; leaves spotted, 436; rules for judging, 442; pruning, 448; showing, 461; show prospects, 467; buds deformed, for wall, 470; fungus on, packing for export, Marechal Niel not thriving, leaves shrivelled, 471; notes on, 478; International Show at Antwerp, 480; at Horticultural Society's Show, 486; largest, &c., transplanting, 490
 Rotation of crops, 88
 Rudge, macrophylla, 300
 Rneworts, 264
 Rust, preventing, 403; removing, 53
 SAFFRON, CONSUMPTION OF, 9
 Salads, culture of, 220
 Salix babylonica, 173
 Salsify culture, 289, 332
 San Francisco horticulture, 280
 Saponaria ocyroides failing, 381
 Sarracenia purpurea culture, 471
 Savin aged, 381
 Savoy culture, 122
 Sawdust manure, 436
 Scabgrass, Hieracium, 393
 Scale, destroying, 251
 Schizostylis coccinea culture, 149, 325
 Sciadocalyx digitaliflora, 299
 Scottish Horticultural Association, 62, 134, 203, 286, 374, 442
 Screen plants, 72; in cold district, 75
 Scree, trees on, 386
 Scurvy face in Spanish fowls, 42
 Scythe, 136
 Seakale, culture, 281; for London markets, 337
 Season, the present, 66, 88; prospects, 94
 Seed, sow good, 111; retaining vitality, 153
 Seeds, Act against adulterating, 291
 Seedlings, certifying, 208
 Scagmella denticulata culture, 363
 Selwage, for growing crops, 231; management, 323; used profitably, 439
 Semi-hardy, use of, 95
 Shading, 34; shrubs, 65
 Sheep, management of long-woolled, 363
 Shorthorns, 120
 Silene pendula, 458
 Silkies, Japanese, 473
 Skylark, keeping and management of, 398
 Slate shelves, 381
 Slugs, 326; destroying, 75, 427; and Ducks, 425
 Soot water, 381
 Sowing tender plants too early, 242
 Spanish red-faced owl, 272
 Sparganium africanum, 91, 132, 166, 181; culture, 439
 Spatioglossa Petri, 334
 Sphaeria Robertsi, 133
 Spinach culture, 332
 Spirea, a Japanese, home-grown, 46; Thunbergii, 68, 130
 Spruce, 160, 384
 Spring flower bed, early, 222
 Spring flowers, 324, 441
 Starch in plants, 324
 Stings, remedy, 198
 Stock, breeding, 139; mode of feeding, 19, 400
 Stopping fruit-tree shoots, 488
 Store, effects of, 280
 Store, plant culture, 115; heating small, 153; management, 342; plants for, 37
 Strawberries, culture, 47; forcing, 36, 172, 212; in pots, 94, 250, 287, 414; manuring in pots, 212; plants after forcing, 361; preparing for planting, 405; systems of culture, 443; selection of varieties of, 433; unfruitful, 471; on house roof, 483; large form of, 483
 Subtropical gardening, 415
 Suburban gardening, 35, 72, 113, 151, 190, 229, 230, 340, 377, 416, 468
 Sulphur, use of, 465
 Sunflower seeds for fowls, 429
 Sutton & Sons', Calceolaria at, 410
 Sutton & Sons at the Paris Exhibition, 329
 Swans' fertility, 474
 Sweet turnip, culture of, 435
 Sweet Williams, culture of, 465
 Symphytum asperum culture, 309
 Syzigium Moorci, 190
 TABLE DECORATION PLANTS, 139, 307
 Teal, 109
 Tenant out-going, 269
 Texas, seed for, 173
 Thermometer, correcting, 192
 Thrips, 415; to destroy, 436
 Thrush caged, 404
 Thuja Lobli, cutting, 343
 Tomato culture, 135, 223, 384, 169, 471
 Tomatoes, early, 37
 Tonbridge Poultry Show, 78
 Top-dressing, 309
 Torbay Horticultural Show, flowers in bloom, 280
 Touting judges, 384
 Trenching machine, 52
 Tree stumps, blasting of, 212
 Trees, plants under, 343
 Trenching, cost of, 95
 Tropaeolum, Ball of Fire, 372; albidum and Moritzianum, 483
 Tropical garden, 337
 Tuberoses, culture, 362
 Tuberoses, culture, 94; home-grown, 34, 89
 Tulip culture, 136
 Tulip Society's Show, 337
 Tulips, at Paris Exposition, 222; at Messrs. Carter's, 324; at Sydenham, 357
 Turner, Mr. C., 280
 Turner's Nurseries, 324
 Turnip, culture, 277; culture of Sweden, 436
 Tydaea Madame Heine, 145
 Tydaea, 68
 UPPINGHAM FLOWER SHOW, 429
 VARIEGATED LEAVES, 53
 Varnish, good, cheap, 347
 Vegetable culture, 7, 44, 47, 61, 85, 102, 123, 143, 163, 180, 217, 238, 246, 277, 315, 332, 357, 370, 388; seed selection, 132; seed sowing, 152
 Vegetable Marrows, 286; culture, 361, 370
 Vegetables, early, 442
 Veitch & Sons' prizes, 34
 Veitch Memorial prizes, 381, 392
 Ventilator, electric automatic, 206, 207
 Verandah, creeper for, 269
 Verbena culture, 186
 Victoria Park in May, 373
 Villa gardening, 55, 72, 113, 151, 190, 229, 267, 305, 408
 Villa gardens, 281, 338, 340, 377, 416, 442
 Vine—borders, 8, 109, 143, compost for, 25, fermenting dung for, 171, 231, inside, 149, renewing, 17; culture, 187, 251, 306, 417; forcing, 191; white grains on, 326; importation prohibited, 324; insects on, 414; leaves unhealthy, 436; removing shoots, 418
 Vinery, constructing, 471; elevation, 55; plants for back, 75; insects in, 231; wall, plant for, 251; utilising, 154
 Vines—Tokay and others failing, 55; for early and late houses, 109, 143, 268, 340, 341, 380; not starting freely, 74; watering inside border, 74; borders, 87, asphaltum, 95; failing, 95; transplanting, 95; steaming and syringing, 142; steaming, 142; high temperature, 170; planting, soil for, 212; air roots, planting, 270; shoots decayed, 343; unfruitful, 363; syringing, 370; cuttings, 381; midweek on, 381; not productive, 381; management of, 453, 488, 490; ventilation of house, 455; for Texas, 455, 484; at Chiswick, 478; unhealthy 478
 Violet, Belle de Chatenay, 280
 Violets, 269
 Viticultural Society, 242
 Vitis macrospora, 299
 Vriesia speciosa, 111
 WALLFLOWER CULTURE, 225
 Wallflowers, double, 424, and semi-double, 375
 Wall protection, 52
 Wall tree, training, 190, 193
 Watercress, bed mossy, 381; in frames, 47
 "Watercress Home Culture," 423
 Water, hot for plants, 323
 Watsonia culture, 251
 Weather, 222; results, 338
 Weeding, 365
 Week, work for, 15, 35, 54, 73, 93, 114, 154, 152, 152, 172, 190, 210, 229, 248, 286, 306, 344, 340, 361, 379, 397, 417, 433, 453, 469, 488
 Weevil, 192
 Wellingtonia gigantea, 338
 Wet place, plant for, 56
 Wharfedale Poultry Show, 366
 Wheat, American produce, 241
 ancient culture of, 41, 17
 White flowers for bedding, 251
 Wilkesonia fluminea, 243
 Willis's, Mr., nurseries, 266
 Wimbledon House, 248
 Winter-flowering, greenhouse plants, 307; plants for coolgreenhouse, 363
 Winter flowers, 187
 Wireworm, extracting, 331
 Wireworms, 404
 Wistaria sinensis, 114
 Witloof, 284
 Wolf's-bane, 93
 Wolverhampton Poultry Show, 97
 Woodlarks, keeping, 274
 Woodlice on Peach wall, 17
 Wood Pigeons destructive, 235
 Worcester orchards, 423, 460 [465
 Worms, in lawn 231, 288; to destroy, Wormsley Grange, 358
 XIPHION PLANIFOLIUM, 225
 YEAR'S EXPECTATIONS AND COUNSELS, 1, RESOLUTIONS, 3
 Yeovil Poultry Show, 97
 Yew leaves, herd killed by, 235
 Yews, in flower, 44; seedling Irish, 187
 from seed, 174
 York Floral Fête, 479
 ZINC LABELS, 8, 29, 47, 55

WOODCUTS.

	PAGE.		PAGE
Adelaide Botanic Garden.....	412	Fungus, fossil.....	85
Adiantum palmatum.....	32	Glaucium luteum.....	163
Aërides Fieldingii.....	485	Grub-picker.....	171
" Thibautianum.....	451	Holme Lacy.....	12
Æschynanthus splendidus.....	48	Hotbed, miniature.....	361
Alströmeria chilensis.....	413	Hymenanthera crassifolia.....	13
Alyssum Wierzbickii.....	484	Iberis ciliata.....	244
Boilers, Richardson's.....	297	" nana.....	64
Boronia Drummondii alba.....	431	Kew Palm House.....	265
Carrier Pigeon.....	22	Lælia furfuracea.....	33
Conoclinium ianthinum.....	206	Larking's Villa Garden.....	245
Coop for chickens.....	39	Nemophila discoidalis.....	320
Cordiceps Robertsii.....	130	Paraffin stove.....	261
Cypripedium Dominionum.....	185	Pelargonium echinatum.....	169
Dracena Bausei.....	283	Pencarrow rockery.....	70
Echeveria retusa.....	188	Peronosporites antiquarius.....	85
Edinburgh Flower Show.....	321	Pigeon boxes.....	402
Erica andromedaeflora.....	223	Platycerium Hillii.....	395
" bruniades.....	150	Pond making.....	346
" campanulata.....	227	Potato, cutting single eye.....	124
" colorans superba.....	226	Rhodanthe maculata.....	320
" elegans.....	150	Rose bed.....	6
" Irbyana.....	467	Sewage system.....	354
" Lambertiana rosea.....	151	Sparmannia africana.....	91
" McNabiana.....	377	Spiræa Thunbergii.....	131
" Massoni.....	302	Tehidy.....	110
" mundula.....	462	Thrips.....	415
" odorata.....	303	Ventilator, Symonds' electric automatic.....	207
" princeps.....	376	Villa-garden plan.....	282, 339, 443
" propendens.....	374	Vriesia speciosa.....	111
" speciosa.....	466	Wall protection.....	52, 53, 204
Ergot.....	308	Watercress pan.....	427
Fig flowers.....	90	Wormesley Grange.....	359

WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 4—10, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.			
4	TH	Oxford and Ludlow Rose Shows.	75.8	50.6	63.2	3	51	8	17	8	43	10	19	Days.	m. s.	185
5	F	Tunbridge Wells Horticultural Society.	77.4	50.1	64.2	3	52	8	16	10	8	10	33	4	4	186
6	S	Southgate Show.	76.2	51.3	63.6	3	53	8	16	11	33	10	47	5	4	187
7	SUN	3 SUNDAY AFTER TRINITY.	73.7	51.4	62.6	3	54	8	15	0 a. 58	11	3		6	4	188
8	M	Diss Horticultural Society.	74.1	50.0	62.1	3	55	8	14	2	24	11	22	7	4	189
9	TU	Royal Horticultural Society's Great Show at Preston.	74.0	49.6	61.8	3	56	8	13	3	50	11	48	8	4	190
10	W	[Royal Botanic Society's Show.	74.7	50.5	62.6	3	57	8	13	5	12	morn.		10	5	191

From observations taken near London during forty-three years, the average day temperature of the week is 75.1°; and its night temperature 50.5°.

VINE INSECTS.



SOME kinds of insects attack the Vine at all times of the year, but there are others which only prey on it during the season it is in leaf. It is the latter class, which includes thrips and red spider, that are generally most injurious; but unless where there are some deficiencies in the requirements of the Vine or its management the workings of these and other insects may be confined to a very short season, if they cannot be prevented from appearing altogether.

It is generally about the end of June when the weather begins to get excessively hot and during the three following months that insects increase and do the most damage to the Vine. It is a matter next to impossible to keep Vines entirely free from some insect or other throughout the whole season, and it is but just to say that it is by no means always an indication of bad management when one sees a few insects on Vines; yet what every Vine-grower tries to do is first to keep his Vines entirely free from insects, and next to prevent them from spreading and increasing to any serious extent when they do appear.

To give a little assistance on the last-named undertaking these notes are written. No person need feel alarmed at seeing one or two leaves in their vineyard assuming a slightly fiery colour through red spider, or one here and there becoming grey with thrips, as this occurs in nine vineyards out of every ten; but this is the point—do not let them spread further, or much further, because when they get on to every leaf there is no chance of preventing them from doing serious injury. Where there are only two or three of the leaves affected now, more will be every day attacked in the hot summer weather, so no one can fail to see the necessity of beginning to check the pests at once if they have not done so already.

Red spider is the first to which attention should be paid. To amateurs who do not know much about what this insect is I may say it is very small, so small indeed that a dozen or two of them on the back of a Vine leaf can hardly be seen with the eye, but when there is a crowd of them they are observable running about; but as good a way as any of detecting their presence is by the colour of the leaf. When fresh green leaves become rusty in colour red spider is almost sure to be the cause of it, unless in exceptional instances, and one of the best things to do as soon as these red leaves are observed is to sponge them all over with water mixed with a quantity of Gishurst compound. I do not think it is necessary to say what quantity of this valuable compound should be mixed to the gallon of water. We never weigh or measure it, but always apply it in larger or smaller quantities according to the number of insects to be killed. When the insects are numerous it should be made very strong. This sponging may be repeated either on the same leaves or others if they are attacked. In bad cases the Vines may be syringed with the mixture altogether, but this must not be done after the fruit has com-

menced colouring, or the berries will become discoloured, and perhaps tainted in flavour. After colouring has begun, and when it is not safe to syringe, if the spider is still spreading, a quantity of sulphur should be mixed up in water and then put on the hot-water pipes like paint. The fumes emitted from this when the pipes are hot will greatly check the spider and not injure the Vines. This treatment applies to moderate cases. When the leaves are much devoured by spider all the ventilators of the house must be shut close the first evening after the sulphur has been put on the pipes, the fire set agoing until the temperature of the house is up to 85°, when it may be allowed to decline to the usual heat. When the heat is raised so high the fumes are very strong, and if it does not kill all the insects in one night none of them will survive a second dose.

Thrips may be checked by sponging at the same time as that is done for spider; but while the latter generally appears on the old leaves first, the former always select the young leaves and tender points of the shoots, consequently they are not so easily sponged off. Fumigating with tobacco paper, however, is certain death to them, and this is much the surest way of dealing with them. When the thrips are plentiful the fumigating should be done two or three nights in succession; this, however, while it will kill the insects, will not destroy eggs, consequently the fumigation must be repeated in about ten days: if this plan is persistently followed the pest may be abolished. The smoke should be so thick in the house that objects cannot be distinguished 3 yards off. When thrips are young they are quite white, when old black in colour, and at all times they are long and sharp. They eat holes in the leaves and the points out of the young shoots, which is a hindrance to the progress of the Vine.

Green fly sometimes appears on the points of young Vine shoots, but I never saw them do much harm to them. However, I have no doubt they would do harm if very numerous, but they are easily disposed of in the same way as the thrips.

Mealy bug is the most filthy Vine pest, and although it seldom checks the growth of the Vine it spreads over the fruit and amongst the berries, which makes them unsightly and often unuseable. Little can be done to remedy this in summer when the Vines are in leaf further than brushing off any which may be seen about the leaves or rods; but in winter the loose bark cannot be too carefully cleaned from the rods and about the spurs, and afterwards scour the Vines thoroughly with water heated to 105°; but as we may probably have something to say on this matter when the time comes to see to it, it may be left for the present, and as something of more importance just now I may say that keeping the Vines in a free-growing healthy state will do more towards keeping them clear of insects than all other remedies put together, and above everything let them have liberal supplies of water at the root in the hot weather which appears now to be setting in.

Never mind although the fruit is black, water the same as if it were green, and give plenty of air on fine days, which will both prevent the flavour from declining or the

berries from splitting, which I understand are the two supposed dangers that are said to occur when the Vines are watered with the fruit hanging ripe.—A KITCHEN GARDENER.

WINDOW GARDENING AND WINDOW PLANTS.

IN writing for window gardeners it is meet to commence with

WINDOWS.—They must either open outward, inward—be fixed on pulleys to move upward—or constantly closed. As to the last—flowers or no flowers, it is to be hoped that a window incapable of admitting pure air may soon be as difficult to find as the Dodo. If it is convenient to have your flowers always inside, as where there is no suitable window sill outside, then let your sashes be hinged on the outside and move outwards only, as it will save you all the trouble of moving your flower baskets, vases, or pots when you wish to admit fresh air. Such windows are sometimes made with a second hinge and turn in on the side walls, as in Spanish bow windows; but when this is objectionable for appearance or otherwise the sashes turn inwards, and you have not to disturb your hardy plants and boxes outside. For your own convenience and the health of your plants the most desirable sashes are those that move perpendicularly on pulleys up or down. With such you can regulate the amount of air you think desirable, if any, and if you are of opinion top air is alone desirable lower the top sash.

AIR-GIVING.—With sash windows, which are never so close that some air cannot have access, especially in summer when the timber contracts and when air is most desirable, there is not the same risk your plants will become drawn or shanky, as one sees in the windows of the poor cottiers whose sashes enjoy a perpetual repose. You see a few leaves and a consumptive-looking flower at the top of a long stalk, perhaps standing in a saucer of water that some female member of the family ever and anon keeps strictly replenished. The soil is sodden, as it should not, and the plant is sickly. No bright colour glows from either flower or leaf, no more than from the cheeks of the pale girl inmates; and the atmosphere, which should constantly change, never does except when a fire is lighted and a current produced up the chimney, which is often insufficient to move the carbonated, carbureted, or miasmataladen atmosphere, these gases being heavier than common air. Such a plant has been mismanaged in the potting, as shall be shown, but the absence of pure air shortly terminates its untoward existence. In one word, if your plants cannot have pure air, especially during the late spring, summer, and autumn months, you will never have clean, healthy, bushy plants to reward your efforts or encourage your attention, and you will find yourself engaged in a labour of love vainly. When a cold wind blows, from October, say, to March, and of late years much later, your sashes must be thrown open with care, and then only a few inches on the top; and not at all if the wind happens to be a dry nor'-easter, which dries and crisps most injuriously any soft herbaceous plant exposed to its withering influence.

WINDOW STRUCTURES.—*Plain Red Pots.*—These placed on a balcony or a window sill, and intended to successfully grow flowers or plants in, would require an immense amount of time and trouble—as much experience in watering, planting, and protecting as would suffice similarly to manage a greenhouse, if not more; and I hardly remember a single instance under such circumstances where complete success was achieved. In winter nothing grows in pots outside, on window sills, &c., except bulbs and very hardy plants; and in summer and autumn the young rootlets at the side of the pot are roasted and the plant irretrievably ruined. Plain red earthenware pots, even though they are scrubbed and kept clean (if covered with green slime or moss they are odious), are most undesirable plant receptacles alone, and are liable to the following and many other objections:—

- a They require constant watering, especially in summer; if not, the plant dies—except, perhaps, Sedums.
- b If placed in saucers of water, as one frequently observes, the soil, especially in the absence of sufficient drainage, becomes sodden, and the plant shortly terminates an unpleasant lingering existence.
- c In plant structures appearances are much consulted, and the appearance of scrubby red pots on a window ledge with roasted or sickly plants is not prepossessing or enticing.

2. *Window Boxes.*—The dimensions of the box must be

made to suit the window; and its depth to what you propose to grow and how. Many things, as showy scarlet Geraniums, dwarf Nasturtiums, hardy Fuchsias, Pelargoniums, and almost all hardy annuals, including Mignonette, &c., can be grown outside in a plain deal box, lined with zinc or not, and perforated for drainage purposes; the soil suitable and the plants dwarf. But the perfection of such an arrangement would be an ornamental or plain box painted and stencilled in front, protected by a sheet of glass, hermetically sealed with putty, &c., to protect the stencil and the colouring, and for effect. Instead of having the box full of soil I should use damp moss, and only put flowers coming into bloom into it. Such a box would be always gay; and with a proper shade, which is almost indispensable to exclude heavy cold rains, hot sun, and hoar frost or hail, while it could be removed to admit genial showers and the warm night dews, one can have a perpetual summer or spring, especially in large towns, where, if they do not choose to go to the trouble of growing their own succession plants, they can have what they desire at almost every street corner, or Covent Garden Market, &c. Instead of the moss with which I propose to retain moisture around the pots and save the trouble or danger of watering, perhaps with hard water too, one can use good loam or leaf mould; and between your pots you can grow creepers, as Clematis, Canary Creepers, Ipomœas, Convolvulus, &c.

I need not point out the advantage of taking up a flower pot and plant when its beauty has gone and putting another exactly in its place, without having to wait a day for succession blooming, without any inconvenience from change of soil or manure, or having to tax your patience in watching the future companion of your hours of ease and enjoyment. To do this with real satisfaction we should grow our own plants, and for this purpose a backyard, a frame, and a knowledge of culture and propagation, to which we shall immediately come, would be necessary. No lady or gentleman will feel their honour or prestige in the least diminished by tucking up their sleeves, and perhaps donning an apron or blouse specially made for the purpose, to set seeds, plant cuttings brought home from visiting, transplanting, watering, repotting, syringing, and plucking off dead flowers, with the hundred and one little attentions always to be noticed by a diligent and intelligent eye. This is pleasurable amusement, I do not call it work or labour.

3. *Wardian Cases.*—In connection with window structures these observations would be incomplete without noticing the various designs, *en passant*, of miniature window greenhouses. They are to be found very common among the wealthy in London squares and in front of Dublin drawing-rooms, but still much more so on the Continent—Paris, Brussels, &c. They are a combination of the greenhouse idea with the box plan already sketched out, and from the following description of M. Victor Pagnet would induce the lover of floriculture to see their use and beauty generally recognised and extended:—“In Brussels the balconies are turned into greenhouses and miniature stoves gay with the brightest and greenest foliage, and in Paris there are many contrivances in use by means of which the rarest and most beautiful plants are produced. Passifloras cling to columns in the upper floors, water plants start into blossom in tiny basins curiously contrived in solid brickwork, and limpid water flows down a miniature rockery, from whose crevices start up Ferns and Lycopodiums.” Such contrivances are not common in England or Ireland, though they can be had. As these suggestions are mainly intended for those with limited means I shall merely say as the main intention should be to maintain a moist atmosphere, and as glass is comparatively cheap, and the other requisites for such easily procured, any person with plans, that can be had for nothing, and with a distinct idea of what is required, can make one to suit his own fancy and to grow Ferns, miniature plants, &c.

PROPAGATION.—This I have already referred to, and shall summarise my remarks under two heads—raising plants from seed and from cuttings.

Seed may be started in pans made shallow, in boxes, in pots, &c., covered half the diameter of an individual seed as a rule, something more or less as you require rapid or slow growth, but never too deep. The pans or pots should have coarse material underneath, and finer over that, and in most cases should be covered or dusted with sifted soil, or better with silver sand. If seeds are started early—speaking generally, if the temperature is under 50°, as in the early spring and winter months—a moist frame with 6 or 12 inches at least of stable manure would be necessary, unless they can be started

inside by means of hot water heat applied underneath the pan and covered with a bellglass. There are various contrivances for this purpose, but for convenience of starting cuttings, &c., a frame or pit of some sort is much to be preferred. In a warm room in February, March, or April all hardy and half-hardy seeds can be started in a window, over a fireplace, or in a cupboard, provided you place over the seed pan, &c., a closely fitting sheet of glass to retain sufficient moisture for germination. The seedlings when started must be gradually removed to a cooler situation, and the sheet of glass at first tilted up, and then removed finally. The less waterings seedlings receive the better. A deluge of hard water from a large rose watering pot will be certain death to most softwooded or tender seedlings. Better a hundred times to wholly plunge your seed pan into a tub of rain water. I advisedly refrain from naming any particular seeds, as all are in some respects different, and wish these remarks to be considered general. Then the sooner the seedlings are transplanted the more robust they become.

Cuttings.—As a rule a cutting should be short, not more than 3 or 4 inches. Provided it contains organisable matter enough at the base of a leaf or joint to form spongioles or rootlets, the younger it is, the sooner you will have your young plant to greet you. For them a moist frame or a moist atmosphere, however procured, is most necessary. This prevents flagging, and perspiration and absorption go hand in hand. Expose the same tender shoot to hot sun or a dry atmosphere, and you have been to the trouble of getting it in vain. A side shoot last year's wood will bear rougher treatment. For instance, take such of a Fuchsia in July, and several months may elapse before an opening bud may greet your eye. Take a side shoot of the same plant in June, and start in silver or clean road sand, and loam, in a moist frame, and it will beat the former started several months before. Prevent the cuttings from feeling the effect of the removal from the parent plant as indicated, and success will smile on you in most cases. If you fail, why, be more careful and try again.—W. J. M., *Clonmel*.

(To be continued.)

THE NATIONAL ROSE SOCIETY'S SHOW, CRYSTAL PALACE.—JUNE 29TH.

A GRAND show of Roses, a meeting of rosarians from all parts of England, a most numerous company, and a great competition—all these familiar features again presented themselves with, if anything, increased force to our notice.

Judging in some of the classes and exhibiting in others, which occupied my time in the morning, it was with great difficulty that I made any notes, for the public were admitted long before the judging was over, and then such was the rush that taking notes was impossible. Owing to the heat of the weather and the close atmosphere of the hall none of the great nurserymen uncovered their blooms before they were positively obliged, so that it was only by frequent visits that one could find out the most salient points of their stands.

The great nurserymen showed very well in the class for seventy-two. The names of Messrs. Cranston's winning stand are appended, but I may mention that the blooms most conspicuous for their excellence were Exposition de Brie, a fine old variety, too often belied for his companion Ferdinand de Lesseps; Lælia, rarely seen in excellent form now; Général Jacqueminot, splendid; Duke of Connaught, Lord Macaulay, Marquise de Castellane, Mons. J. Y. Teas, Fisher Holmes, and the Tea Rose Souvenir d'Elise. With regard to this Rose, which was shown in a great number of stands, I can truthfully say that during the eight years I have attended Rose shows I have never seen anything approaching to this in beauty of form and in refinement of colour, while as to size I did not think my old favourite was capable of attaining to anything like it. Mr. Cant, who was second for seventy-two, had a splendid stand of Roses remarkable for their freshness, and here he had decidedly as much a pull over the Hereford grower as Mr. Cranston distanced him in size. His blooms of Reynolds Hole, Xavier Olibo, and Horace Vernet among the darks, Marie Cointet and Marie Finger among the lights, and his Teas La Boule d'Or and Devoniensis, were blooms which will linger in the memory of most rosarians for a long time and haunt my dreams. Mr. George Paul was not up to his old form by any means, but he showed some very fine blooms. Lord Macaulay, Jean Liabaud (well shown in several stands), Sultan of Zanzibar, were all good representatives of the darker shades of colour; while Rev. J. B. M. Amm, Marie Finger, Abel Grand, Emily Laxton, asserted the claims of the lighter Roses to our favour. Although not strong in Teas I had fine examples of Maréchal Niel, Alba Rosea, and Souvenir d'Elise. Mr. Keynes', or rather I should say Mr. Wyatt's stand, as conspicuous for its grand Teas. The Salisbury nursery was

always famous for this lovely class of flower, and Jean Ducher, Catherine Mermet, Niphotos, Souvenir d'Elise were certainly the cream of his collection. Mr. Mitchell also staged an even seventy-two with several grand Teas in it.

The class for forty-eight trebles was well represented also, and the Roses I think showed to much more advantage than in the preceding class. Messrs. Cranston were again first with splendid trebles of Mdle. Eugénie Verdier, Marquise de Mortemart, Le Havre, Xavier Olibo, Marie Baumann, Louis Van Houtte, Niphotos, and Castellane. Mr. Wyatt's (Messrs. Keynes') trebles, however, ran him very close, and at a cursory glance appeared almost finer. Reynolds Hole, Marie Baumann, Marie Cointet, Niphotos, Moiré, Duke of Wellington, Souvenir d'Elise, Triomphe de Rennes, and Catherine Mermet were among his best; Mr. Cant had also lovely trebles. His La France and La Boule d'Or were exceptionally good, and Souvenir d'Elise, Niphotos, Maréchal Niel also grand; while among the Hybrid Perpetuals he had splendid specimens of Horace Vernet, of which Rose he showed a superb box of twelve. How any judges could refrain from giving an extra first prize to this stand passes my belief, and will ever be a mystery to Mr. Cant. Marie Baumann shown by Mr. Curtis of Torquay was grand beyond expression, but Horace Vernet was equally so. Mr. Paul's forty-eight trebles contained among others good specimens of Comtesse de Serenye, a somewhat difficult Rose to show clean and well opened; Mrs. Baker (who was also present in the flesh, greatly rejoicing in her well-won triumph in carrying off the challenge cup); Horace Vernet, Duchesse de Morny, Catherine Mermet, Maréchal Niel, Marie Rady, Madame Lacharme, Mons. Noman, Madame Clert, and Sir Garnet Wolseley.

Such is the *résumé* of the chief classes in the Great Show by the earnest and accomplished rosarian "WYLD SAVAGE." It leaves little to be added beyond detailing the honours won at the long-anticipated contest, and enumerating the varieties which brought additional fame to their owners. Before, however, doing this, and as affording an idea of the magnitude of the Show, it may be stated that, despite all the predictions of failure, there were 457 entries from 132 exhibitors, comprising upwards of 12,000 Roses. A large number indeed fell out in the smaller classes, but there must have been upwards of 10,000 blooms staged at the Exhibition. Worthy of prominent mention, too, is a fact unprecedented in Rose shows, and tending to show how much importance was attached to the Exhibition—viz., that Mr. Jowitt, of The Old Weir, Hereford, and Mr. Cranston of King's Acre chartered a special train in order that they might cut their Roses fresher, leaving Hereford at eleven o'clock at night! Now to the classes.

NURSERYMEN.—In the great class of seventy-two varieties, single blooms, Messrs. Cranston & Co., King's Acre, Hereford, won the chief prize—a piece of plate and £5—with a collection of great weight, brilliancy, and freshness. The following were the varieties and their arrangement in the boxes, each row being read from left to right:—Back row: Mdle. Eugénie Verdier, Marie Baumann, Paul Neyron, Madame Lacharme, Duke of Edinburgh, Edouard Morren, Maurice Bernardin, Comtesse de Serenye, François Michelin, Le Havre, Madame Charles Wood, Baronne de Rothschild, Comtesse d'Oxford, Madame Nachury, Xavier Olibo, Mdle. Marie Finger, Madame Victor Verdier, Mons. Woolfield, Reynolds Hole, Annie Laxton, Etienne Levet, Madame Willermoz, Mdle. Marie Rady, and Duchesse de Vallombrosa. Middle row: Horace Vernet, Princess Beatrice, Général Jacqueminot, Auguste Rigotard, La France, Louis Van Houtte, Capitaine Christy, Nardy Freres, Lord Macaulay, Marguerite de St. Amand, Marquise de Castellane, Star of Waltham, Madame de Gibot, Belle Lyonnaise, Baron Hausmann, Clovis, Alice Dureau, Abel Carrière, Souvenir de Arthur Sansal, Duc de Montpensier, Duchess of Edinburgh, Madame Jacqueur, Victor Verdier, and Duke of Wellington. Front row: Marquise de Mortemart, Exposition de Brie, Lælia, Duke of Connaught, Mons. E. Tournier, Mons. Noman, Madame C. Crapelet, Mrs. Baker Duc de Morny, Maréchal Niel, Mons. E. Y. Teas, Niphotos M. Adèle de Murinais, Devienne Lamy, Souvenir de la Malmaison, Antoine Ducher, Sénateur Vaisse, and Madame Vidot. Mr. Cant, Colchester, was an excellent second, the blooms being wonderfully fresh, but generally smaller than those from King's Acre. Amongst the high-coloured varieties Xavier Olibo, Horace Vernet, Star of Waltham, Charles Lefebvre, Madame Marie Rady, Duc de Wellington, Pitard, and Duchesse de Caylus were remarkably rich and fine; and amongst the lights the following were prominent by their form, freshness, and purity:—Souvenir d'Elise, La France, Mdle. Marie Cointet, Niphotos, La Boule d'Or, and Devoniensis. Messrs. Paul & Son, Cheshunt, were a rather close third with blooms somewhat longer but a trifle dull, and some of them injured by either sun or wind. The best were Souvenir d'Elise, a Rose that was in splendid condition throughout the Show, Marie Baumann, Lord Macaulay, Etienne Levet, Niphotos, Capitaine Christy, Maréchal Niel, and Duchesse de Caylus. Messrs. Keynes & Co., Salisbury, won the fourth prize; the noteworthy blooms were Souvenir d'Elise, Horace Vernet, Etienne Levet, Catherine Mermet, François Michelin, Jean Ducher, splendid; and Fisher Holmes. The others were more or less injured by the weather. Messrs. Mitchell & Sons, Uckfield, were the remaining exhibitors.

In the class of forty-eight trebles six very fine collections were staged, and the Judges—Messrs. Hole, Peach, and Baker—were long in making their awards. Messrs. Cranston & Co. were again in the premier position with blooms the great majority of which combined great size with good form and high quality, only a very few being faulty. The varieties were Exposition de Brie, Lælia, Alice Dureau, Lord Macaulay, Madame C. Wood, Paul Neyron, Madame Hippolyte Jamin, Mrs. Baker, Annie Laxton, Duc de Morny, Horace Vernet, Mons. Noman, Marquise de Castellane, Madame Lacharme, Duchess of Edinburgh, Mdle. Marie Rady, Niphetos, Victor Verdier, Duchesse de Vallombrosa, Beauty of Waltham, Mons. Fillion, Mdle. Marie Cointet, Capitaine Christy, Mons. E. Y. Teas, Madame Eugénie Verdier, Reynolds Hole, Marie Baumann, Marquise de Mortemart, Edouard Morren, Fisher Holmes, Maréchal Niel, Xavier Olibo, La France, Le Havre, Maurice Bernardin, Baronne de Rothschild, Comtesse d'Oxford, Duc de Wellington, Louis Van Houtte, Princess Beatrice, Marguerite de St. Amand, Duke of Edinburgh, Madame C. Crapelet, Nardy Frères, Souvenir d'Arthur de Sansal, Comtesse de Serenye, Général Jacqueminot, and Mons. Woolfield. The remaining prizes were awarded to Messrs. J. Keynes & Co., G. Paul & Son, and Mr. Cant in the order of their names. The Salisbury collection was extremely fresh and beautiful, and only lost the first prize by a few points. The Cheshunt and Colchester blooms were also of generally excellent quality, and the competition throughout the class was exceedingly close.

Mr. C. Turner, Slough, won the premier prize in the class for thirty-six single blooms (in which nine collections were staged) with a remarkably good and very regular collection, consisting of Madame Ferdinand Jamin, Xavier Olibo, Paul Neyron, Madame Joséphine Guyet, Capitaine Christy, Horace Vernet, Edouard Morren, Devoniensis, Louis Van Houtte, Annie Laxton, Souvenir d'Elise, Marie Baumann, Mad. Thérèse Levét, Villaret de Joyeuse, La Rosière, Margaret Brassac, Maréchal Niel, Comtesse d'Oxford, Ville de Lyon, Charles Lefebvre, Madame Jules Margottin, Ferdinand de Lesseps, La France, Camille Bernardin, Mons. Noman, Beauty of Waltham, Marquise de Castellane, François Louvat, Mdle. Eugénie Verdier, Penelope Mayo (fine), Abel Grand, Star of Waltham, Le Havre, Niphetos, Madame George Paul, and Madame G. Huzard. Messrs. Curtis, Sandford & Co., Torquay, were a very close second. Splendid in this collection were Louis Van Houtte, Duc de Wellington, Horace Vernet, Avocat Duvivier, Monsieur E. Y. Teas, Star of Waltham, Madame Vidot, La France, Margaret Brassac, Etienne Levét, and Victor Verdier. Mr. G. Prince, Oxford, was placed third with rather small but charmingly fresh blooms. The following Teas in this collection were extremely fine and very beautiful—namely, Souvenir d'Elise Vardon, Alba Rosea, Marie Guillot, and Catherine Mermet. The fourth prize was awarded to Messrs. Kinmont & Kidd, Exotic Nursery, Canterbury, with a very good collection, containing the finest example of Reynolds Hole in the Show—indeed, one of the finest blooms that have ever been seen of this richly coloured but somewhat uncertain Rose.

Five collections were exhibited in the class for twenty-four trebles. Mr. Cant won first honours with blooms of very high quality La France, Charles Lefebvre, Souvenir d'Elise, Horace Vernet, Xavier Olibo (magnificent), Antoine Ducher (very fine), Reynolds Hole, Mons. Noman, Devoniensis, Marie Baumann, Ferdinand de Lesseps, Mdle. Marie Cointet, Baronne de Rothschild, Prince Arthur, La Boule d'Or (fine), Sénateur Vaisse, Ville de Lyon, Fisher Holmes, Mdle. Marie Rady, Elie Morel, Comtesse d'Oxford, Marguerite de St. Amand, and Duchesse de Vallombrosa. Messrs. Keynes & Co. were a very close second. Souvenir d'Elise and Triomphe de Rennes in this collection were marvellously fine, and very good were Niphetos, Catherine Mermet, and Etienne Levét. Messrs. Cranston & Co. were third with an admirable collection, and Messrs. G. Paul & Son fourth with blooms considerably weatherworn, and not by any means up to the usual high style of Cheshunt.

Thirteen collections were exhibited in the class of twenty-four single blooms, some of them being inferior, a few good, but none grand. Mr. C. Turner was clearly first with admirable boxes consisting of Paul Neyron, Horace Vernet, Victor Verdier, Louis Van Houtte, Capitaine Christy, Duke of Edinburgh, Elie Morel, Comtesse d'Oxford, Madame Thérèse Levét, Le Havre, Ville de Lyon, Fisher Holmes, Maréchal Niel, Beauty of Waltham, Souvenir d'Elise Vardon, Charles Lefebvre, Madame Huzard, good; Lord Macaulay, Marquise de Castellane, François Louvat, Star of Waltham, Margaret Brassac, very fine; Mons. Noman, and Penelope Mayo, excellent. Messrs. Curtis, Sandford, & Co. were placed second; Louis Van Houtte, Madame C. Wood, Etienne Levét, Madame C. Joigneaux, Le Havre, Hippolyte Jamin, and Général Jacqueminot were the cream of the collection. Third honours were awarded to Mr. H. Frettingham, Beeston Nursery, Nottingham; and fourth to Mr. George Prince, Oxford.

We now arrive at the last of the nurserymen's classes, and certainly one of the most beautiful—namely, the class for twelve varieties of Teas or Noisettes, single blooms. Messrs. Mitchell and Sons, Pitdown Nurseries, Uckfield, who usually exhibit Teas so splendidly, won the premier position with superb examples of

Devoniensis, Duc de Magenta, Madame Margottin, Souvenir d'Elise Vardon, grand; Maréchal Niel, Catherine Mermet, Madame Julie Mansais, Madame Céline Narey, Boidron, Souvenir d'un Ami, Louise de Savoie, and Niphetos. Mr. Cant was a good second with an excellent stand containing superior blooms of Caroline Kuster, Devoniensis, Maréchal Niel, Souvenir d'Elise, Catherine Mermet, Madame Willermoz, Boule d'Or, splendid; Marie Van Houtte, Rubens, and Souvenir de Paul Neyron. Third honours went to Messrs. G. Paul & Son, the gems of the stand being Comtesse de Nadaillac and Alba Rosea. Messrs. Turner, Prince, Piper, and Keynes all exhibited well in this excellent class.

AMATEURS.—The competition in many of the classes in this section of the Show was good, and Roses of superior quality were staged. The class in which the greatest interest was manifested was unquestionably the one of forty-eight single blooms wherein the splendid challenge cup, value fifty guineas, offered under such liberal conditions by Messrs. Cranston & Co., was the coveted prize. The cup, it will be remembered, was won last year by T. Jowitt, Esq., The Old Weir, Hereford, and if he had secured the first position in the class this year the trophy would have become his property; but although Mr. Jowitt staged a collection of remarkable merit and fully equal if not superior to his contribution of last year, yet his great rival, R. N. G. Baker, Esq., of Heavittree, was this year too powerful for his worthy antagonist and won the cup by a few points. So even were the collections that the Judges were a considerable time before they were able to arrive at a decision. Both collections were of superior merit, the blooms being singularly fresh and excellently set up, but Mr. Baker's were slightly the heavier and hence won the prize. The Heavittree collection consisted of the following varieties—Dr. Andry, Victor Verdier, Jean Liabaud, Edouard Morren, Mdle. Marie Rady, Louis Van Houtte, Centifolia Rosea, Marie Baumann, Devienne Lamy, Madame Charles Wood, Madame Berthe du Mesnil de Montchaucourt, Xavier Olibo, Marquise de Castellane, Comtesse d'Oxford, Baronne de Rothschild, Fisher Holmes, Camille Bernardin, Sir Garnet Wolseley, Abel Carrière, Madame Bravy, Mons. Noman, Charles Lefebvre, Mons. G. Tournier, Comtesse de Serenye, Ferdinand de Lesseps, Miss Hassard, Madame Caroline Kuster, Alfred Colomb, Marguerite de St. Amand, Mons. E. Y. Teas, Etienne Levét, Auguste Neumann, Sénateur Vaisse, François Michelon, Duke of Connaught, Marquise de Mortemart, Madame Prosper Langier, Duc de Wellington, Mdle. Eugénie Verdier, Madame Victor Verdier, Magna Charta, Auguste Rigotard, Royal Standard, Duchesse de Caylus, and Sultan of Zanzibar. Mr. Thos. Jowitt, who won the second prize of £9, staged Mdle. Marie Rady, La France, Général Jacqueminot, Mons. Noman, Duke of Edinburgh, Xavier Olibo, Capitaine Christy, Alfred Colomb, Charles Lefebvre, Madame Nachury, Duc de Wellington, Baron de Bonstetten, Madame Furtado, Marie Baumann, Marguerite de St. Amand, Horace Vernet, François Michelon, Madame Charles Crapelet, Comtesse de Serenye, Lord Herbert, Madame Marie Finger, Le Havre, Royal Standard, Prince Camille de Rohan, Beauty of Waltham, Alba Rosea, Reynolds Hole, Comtesse d'Oxford, Docteur Andry, Devoniensis, Paul Verdier, Abel Grand, Clotilde Roland, Belle Lyonnaise, Mons. E. Y. Teas, Mdle. Marie Cointet, Olivier Delhomme, Reine Blanche, Hippolyte Jamin, Triomphe de Rennes, Cheshunt Hybrid, Maréchal Niel, Jean Liabaud, and Marie Van Houtte. The Rev. Reynolds Hole, Causton Manor, Newark, was placed third with large and fine blooms; and Mr. W. Nichol, gardener to H. Powell, Esq., Drinkston Park, Bury St. Edmunds, fourth. There were seven competitors. According to the conditions the cup must now be won next year, and Mr. Baker and Mr. Jowitt can be the only competitors; a great Rose duel is therefore in store, and a keen contest will be anticipated.

In the class for thirty-six single trusses first honours fell to Mr. J. Brown, gardener to A. J. Waterlow, Esq., Great Doods, Reigate, who won with excellent examples of Miss Hassard, Souvenir de Paul Neyron, Emilie Hausburg, Jean Ducher, Xavier Olibo, Gloire de Dijon, Henri Ledechaux, Anna Olivier, Edouard Morren, Reynolds Hole, Souvenir d'un Ami, Alfred Colomb, Capitaine Christy, Lord Macaulay, Duchesse de Vallombrosa, Dr. Andry, Marie Van Houtte, Catherine Mermet, Sultan of Zanzibar, Alba Rosea, François Premier, Souvenir d'Elise, Beauty of Waltham, Impératrice Eugénie, Duke of Connaught, François Fontaine, Auguste Neumann, Jean Pernet, Star of Waltham, La France, Annie Wood, Madame Willermoz, Duc de Rohan, Louis Van Houtte, Niphetos, and Marie Rady. Mr. Baker was awarded the second prize, Mr. J. Lewin Curtis, Chatteris, Cambs, the third; and Mr. John Hollingworth, Turkey Court, Maidstone, the fourth.

Twenty-four collections were staged in the class for twenty-four varieties, single blooms, and the first prize—a piece of plate—was awarded to Mr. Henry Atkinson, Warley, Brentwood, who staged Beauty of Waltham, Victor Verdier, Marie Baumann, Marquise de Castellane, Docteur Andry, Mdle. Marguerite Dombrain, Duke of Edinburgh, Monsieur Noman, Antoine Ducher, Ville de Lyon, Lord Macaulay, Edouard Morren, Fisher Holmes, Baronne de Rothschild, Maurice Bernardin, Hippolyte Jamin, Duchesse de Vallombrosa, Duchesse de Morny, Comtesse d'Oxford, La France, Xavier Olibo, Mdle. Marie Cointet, Mdle. Marie Rady, and Henri Ledechaux. Mr. Jowitt was placed second; Mr. J.

Sargent, Reigate, third; Mr. J. H. Pemberton fourth; Mr. T. F. Burnaby Atkins, Halstead Place, Sevenoaks, fifth; and Mr. J. Edwards, Stisted Rectory, Braintree, Essex, sixth. A great class and a good one.

In the class for twelve Roses, distinct, three trusses of each, Mr. Baker was placed first with good examples of Marie Baumann, Fisher Holmes, Mdlle. Marie Rady, Xavier Olibo, Marquise de Castellane, Charles Lefebvre, Victor Verdier, Comtesse d'Oxford, Madame Caroline Kuster, Monsieur Noman, Edouard Morren, and Marguerite de St. Amand. Mr. John Hollingworth, Turkey Court, Maidstone, was awarded the second prize; and Mr. J. Ridout, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, the third. Mr. John Quennell, Brentwood, being placed fourth. There were nine competitors in this class.

The class for twelve singles was a very strong one. Some splendid stands were staged, but none of them nearly equal to the box with which Mr. Smallbones won the cup last year. A. G. Soames, Esq., of Irnham Park, Bourne, Lincolnshire, was the recognised winner. His grand blooms were of Marie Van Houtte and Mons. Furtado, never before seen in such perfection. This difficult Rose to grow and show was here seen large in size and of Centifolia form, each petal wrapping round his neighbour in the very centre like a fine bloom of Madame Bravy. Captain Christy's stand was so good that the Judges could not do otherwise than give him an equal first. Mr. John Pearce, gardener to Professor Adams, Cambridge, carried off the second honours, and Mr. Joseph Lakin of Chipping Norton third. Rev. Alan Cheales, Brockham Vicarage, Surrey, was fourth with a very pretty stand; Mr. A. Evans of Marston fifth, and Mr. J. Wakeley of Rainham sixth.

The class for six Roses, distinct, was also hotly contested. Capt. Christy, Buckhurst Lodge, Westerham, again won the first prize. Mr. Joseph Lakin turned the tables on Mr. Soames, who were second and third, and Rev. Alan Cheales whipped in with a lovely lot, which but for one small bloom of Victor Verdier would have taken a much higher place.

The class for six suburban-grown Roses—that is, Roses grown within eight miles from Charing Cross—would have been a failure had not Mr. Scott, South Wimbledon, staged such an admirable half-dozen. Mr. Batchelor, gardener to A. Druce, Esq., Dulwich Common, was placed second; and Mr. John Bateman, 1, Prospect Terrace, Upper Holloway, third. The fourth prize was withheld.

For twelve Teas or Noisettes, distinct, single trusses, there were eighteen competitors. The first prize was awarded to Mr. J. Brown, gardener to A. J. Waterlow, Esq., Great Doods, Reigate, for an exquisite collection consisting of Catherine Mermet, Jean Ducher, Louise de Savoie, Devoniensis, Madame Berard, fine; Madame Willermoz, Madame Camille, Caroline Kuster, Amazon, Souvenir d'Elise, Jean Pernet, and Alba Rosea. Mr. W. Smith, gardener to Mrs. Round, Birch Hall, Colchester, was placed second; Mr. W. Nichol third; and Mr. John Pearce, gardener to Professor Adams, fourth. A charming class, and much admired. In the class for eighteen Teas or Noisettes, six varieties, three trusses of each, Mr. John Hollingworth, won first honours with Souvenir d'Elise Vardon, Marechal Niel, Madame Willermoz, Cheshunt Hybrid, Madame Margottin, and Souvenir d'un Ami. The Rev. J. B. M. Camm received the second prize, the stand containing good examples of Souvenir de Paul Neyron, Madame Margottin, Madame Bravy, and Devoniensis.

OPEN CLASSES.—In the class for twelve new Roses which must not have been in commerce previous to 1875, Messrs. Paul and Son were awarded the first prize with a very excellent stand, comprising Mdlle. Marie Pernet, a large and full Rose; Duchesse de Vallombrosa, Sultan of Zanzibar, Rev. J. B. M. Camm, Jean Souperet, a very dark and velvety satin Rose with a cupped centre and the outer petals reflexed; Emily Laxton, Duke of Connaught, Marchioness of Exeter, Star of Waltham, Madame Pernet, Mrs. Laxton, and Magna Charta. Mr. Charles Turner was placed second, exhibiting Richard Laxton, Oxonian, Margaret Brassac, Royal Standard, Duke of Connaught, Rev. J. B. M. Camm, Henry Bennet, Penelope Mayo, a Rose of first-class merit; John Stuart Mill, Duchesse de Vallombrosa, Madame Deveret, and Prince Arthur. Messrs. Curtis, Sandford, & Co., Devon Rosery, Torquay, were awarded the third prize. For twelve blooms of Etienne Levet, Messrs. Paul & Son, The Old Nurseries, Cheshunt, won the premier position with remarkably fresh blooms; Messrs. Keynes & Co., Salisbury, being placed second with larger examples but slightly faded. The third prize was withheld, as it was also in the three following classes. For twelve blooms of Francois Michelon Messrs. Keynes & Co., Salisbury, were placed first with rather small blooms; and Mr. George Cooling, nurseryman, Bath, second with overblown examples. For twelve blooms of Jean Liabaud the first prize was awarded to Messrs. Cranston & Co. for blooms intensely rich, velvety, and fine; Messrs. Paul & Sons, Cheshunt, having the second prize. For single blooms of Marechal Niel, Mr. Charles Turner, The Royal Nurseries, Slough, won the chief position with splendidly coloured blooms; Mr. George Cooling, nurseryman, Bath, having the second prize. For twelve blooms of Marguerite de St. Amand Messrs. Paul & Son, The Old Nurseries, Cheshunt, were placed first with remarkably fresh and fine

examples; and Messrs. Keynes & Co., Salisbury, second. For twelve blooms of any Hybrid Perpetual not named above, dark, thirteen excellent collections were staged. Messrs. Curtis, Sandford, & Co., Devon Rosery, Torquay, won first honours with faultless blooms of Marie Baumann. Mr. B. R. Cant, Colchester, was placed second with magnificent examples of Horace Vernet; Messrs. John Laing & Co., Stanstead Park, Forest Hill, having the third prize with Marie Baumann. For twelve single trusses of any Hybrid Perpetual not named above, light, the first prize was awarded to Messrs. Paul & Son, Cheshunt, for large and remarkably fine examples of Capitaine Christy. Mr. J. Ridout, gardener to J. B. Haywood, Esq., Wood Hatch Lodge, Reigate, was placed second with Baronne de Rothschild, splendid; and Messrs. Cranston & Co., third with Madame Lacharme, very fine. For twelve single trusses of any Tea or Noisette not named above Mr. B. R. Cant won first honours with magnificent examples of La Boule d'Or; Messrs. Keynes & Co. were second with Souvenir d'Elise, fine; and Mr. George Prince, 14, Market Street, Oxford, third with Jean Ducher. For three trusses of any new seedling Rose the first prize was awarded to Messrs. W. Paul & Son, Nurseries, Waltham Cross, N., for Duchess of Bedford, a fine Rose of the Beauty of Waltham type but richer in colour; Messrs. Paul & Son, Cheshunt, having the second place with a fine variety raised by Capt. Christy and named Earl of Beaconsfield. It has the form of Marie Baumann with the colour of Comtesse d'Oxford. For the best collection of "Old Roses" (any Roses in commerce prior to 1840), Mr. Julius Sladden, Chipping Norton, was the only exhibitor, and won the prize with a very interesting collection consisting of about fifty varieties. They were exhibited in large bunches and were rather too crowded to display them to the greatest advantage. They were much admired. A prize was offered for the best exhibition stand other than those in ordinary use, and covered with material other than moss, which was won by Mr. E. R. Whitwell, Barton Hall, near Darlington. The box was similar to an ordinary Rose box, but had a neat beading round its inner edge, half an inch below which was a black velvet-covered lid or platform, in which the tubes were inserted. An extra prize was awarded to the Rev. Alan Cheales for a box very similar, but the velvet-covered top was an inch or more lower than the edges of the box.

MISCELLANEOUS.—Messrs. Wm. Paul & Son were awarded an extra prize for an extensive, varied, and excellent collection of twenty boxes of cut Roses. Mr. W. Runsey, Joyning's Nursery, Waltham Cross; Mr. Mayo, Oxford; and Messrs. Cutbush and Sons, Highgate, exhibited admirable stands of Hybrid Perpetuals, and Mr. Corp. Oxford, an extensive and charming collection of Tea Roses shown in bunches in the bud state.

The Show was a great Show undoubtedly, and as good as it was great, but it was not arranged to the best advantage. Some portions of the tables were much overcrowded, there being no division whatever between many of the competing collections, while in other parts of the tables were large blanks which marred considerably the effect of the Exhibition. The arrangements, too, for the admission of the representatives of the press were the most faulty the reporters ever experienced, and their difficulty in obtaining access to the Palace was such as they never met with before at any horticultural exhibition.

STRAWBERRY GROWING.

HEREWITH I forward samples of Strawberry plants grown at Weaverthorpe on light gravelly soil with chalk rock for a subsoil. I wish to call special attention to the plant marked No. 1 (Preston Seedling) as illustrating what a grand crop of fruit it is possible to grow on one-year-old plants. Last year at this time the land was growing a crop of Potatoes; during July the Potatoes were taken up and the ground dug over, manured, and planted with Strawberry runners. Some little while since when I stated I had produced 1 lb. of fruit per plant on one-year-old plants the statement seemed to take some by surprise. The others are two-year-old plants of well-known varieties full of leaf and full of fruit—how much I will not dare say.

With an unlimited demand for ripe fruit there need be little doubt as to the profitability of Strawberry growing. Planted in August after a fallow crop such as Potatoes, in rows 36 by 18 inches apart, and estimating each plant to produce 8 ozs. of fruit each season, we may realise a gross money value equal to £100 per acre, a sum amply sufficient to cover all expenses of cultivation and still leave a handsome profit for the cultivator. Plums and Apples have to be planted years before they will yield a crop. Not so with the Strawberry. If good varieties be selected and planted early in August, followed up with liberal cultivation, a crop of fruit will reward the cultivator though all other fruit crops fail. To tend the plants with "loving care," not leaving all to the "hired man," to keep the hoe constantly at work so that the soil never has a chance

to become crusted over or a weed to get beyond its seed leaf, are golden rules for the amateur to follow.—W. LOVEL.

[The plants sent us by Mr. Lovel are marvellously well grown, and heavily laden with masses of fruit. As regards productiveness Preston Seedling, to which Mr. Lovel alludes, Eclipse, and Vicomtesse Héricart de Thury, or, as it is sometimes called, Garibaldi, are especially noteworthy.—EDS. J. OF H.]

LEEDS HORTICULTURAL SHOW.

JUNE 26TH, 27TH, AND 28TH.

SIMILARLY to the great Yorkshire gala referred to last week, and at which horticulture is the primary feature, the annual flower Show held in the large, wealthy, and important town of Leeds is made the leading feature of a great fête comprising other attractions not incompatible with the central object of the promoters of the Show.

The display was held as usual in the Horticultural Gardens, which are situated in the suburbs of the town and at an altitude considerably above its level, on which account a fresh breeze usually counteracts the depressing influences of a sultry day. The opening day of the Exhibition under notice was one of the most brilliant days of summer, and the company was correspondingly brilliant, comprising as it did the *élite* of the town and neighbourhood. In the absence of the Mayor his deputy, Alderman Gallsworthy, accompanied by the municipal authorities of the town and representatives of the civic dignitaries of Leeds, formally opened the Show in the presence of a large assemblage of visitors.

The Show was both extensive and of general high quality; indeed many of the plants exhibited and much of the fruit were very superior, and we never observed at any show a less number of inferior exhibits. That was really the distinctive character of the display, and a most creditable one it is both to the several exhibitors and to the Society. The collections were arranged in three large tents, and were protected, as at York, by substantial barriers, while ample room was allowed for promenading, which is of the greatest importance in rendering a show enjoyable. The larger of the marquees presented an imposing appearance. It was not less than 300 feet long by 50 feet wide, and was well filled throughout. In the centre an elevated octagonal stage afforded accommodation for the specimen stove and greenhouse plants, and when it is stated that among the exhibitors were Mrs. Cole of Withington and Mr. Tudgey it will be admitted that the post of honour was well occupied. From the centre to one end of the marquee were arranged the ornamental-foliaged plants and Ferns, which were excellent. No staging was employed for them, and none was required, for the plants were sufficiently large when placed on the ground to fill the centre of the tent, and they always look much better when displayed on grass than on boards, particularly when the boards are not covered with calico or paper. The corresponding end of the tent contained what was a very strong point of the Show—namely, the collections of plants arranged for effect. Liberal prizes were offered in this class, and most gratifying was it to observe how admirably they were competed for. The unbroken masses were arranged down both sides of the marquee, the promenade being in the centre. It is doubtful if that is the best mode of arrangement. At Richmond (Surrey) the collections are grouped along the sides of the tent somewhat in the form of half circles, and from group to group narrow tables are placed close to the tent's sides, which accommodate some of the plants in the smaller classes, such as Achimenes, Gloxinias, table plants, &c., which do not require a great extent of space. Some form of arrangement showing the several collections more distinctly is desirable at Leeds; it is also very desirable that in addition to the liberal prizes offered in the "open" classes that a separate class be provided for amateurs and gentlemen's gardeners only. It is quite clear that there are those who can exhibit excellent examples of conservatory decoration at Leeds, and such as to merit some recognition which they cannot secure in competition with professional firms. Mixed groups arranged for effect are eminently suitable for local exhibitions, because they afford an opportunity for the exhibition of small as well as large plants, and thus the number of exhibitors is increased and taste in the arrangement of plants is stimulated.

A large side tent contained the fruit, Orchids, table plants, and an excellent display of cut Roses; and a corresponding marquee was admirably filled with Pelargoniums.

SPECIMEN PLANTS.—In the open class of twelve plants in flower the first prize of £12 was given by the Mayor of Leeds—Mr. Alderman Carbutt—and was won by Mrs. Cole & Sons, Withington, Manchester, with two large Azaleas, three fine *Ixoras*—Colei, Prince of Orange, and Williamsii—three good *Ericas*, *Statice profusa*, and a *Franciscea*, *Hedera*, and *Dracophyllum*—an excellent collection. Mr. Tudgey, gardener to J. Greswood Williams, Esq., Henwick Grange, Worcester, was a close second with plants not quite so large, but very fresh, well trained, and floriferous. Mr. Cottam, gardener to Mrs. Ringrose, Cottingham Grange, Hull, had the third prize with smaller plants,

In the amateurs' class for six plants three capital collections were staged, the honours going in the following order—first to Mr. Frankland, gardener to John Barran, Esq., M.P., Chapel Allerton Hall, Leeds; the second and third prizes being equally divided between Mr. Tudgey and S. Hanson, Esq., Green Mount House, Halifax. Mr. Tudgey staged *Allamanda grandiflora* in superior condition; *Ixora Williamsii* was also remarkably fine. The premier collection was composed of a splendid example of *Allamanda nobilis*—an oval 5 feet high, a *Bougainvillea glabra* of the same size, and somewhat smaller but good specimens of *Dipladenia amabilis*, *Clerodendron Balfourianum*, *Anthurium Scherzerianum*, and *Erica tricolor rubra*. In the class for three plants Mr. Wright, gardener to G. Talbot, Esq., Burley, Leeds, won chief honours with grandly-grown and well-furnished specimens of *Clerodendron Balfourianum*, *Stephanotis floribunda* 4½ by 3 feet and nearly faultless, and a very good example of *Gloriosa superba*. Mr. Hemming, gardener to H. Oxley, Esq., Wetwood, had the second prize, his noteworthy plant being the good old *Kalosanthes coccinea* 3½ feet in diameter and densely covered with flowers of unusual richness. Third honours went to Mr. Raper, gardener to J. Rhodes, Esq., Potterneton House, Leeds, who staged amongst other plants some very good Orchids.

ORNAMENTAL-FOLIAGED PLANTS AND FERNS.—These were remarkably well exhibited, and so close were several of the collections in point of merit that the Judges, Messrs. Baines and Penny, had considerable difficulty in making the awards. For six fine-foliaged plants Mr. Winterbourne, gardener to Thomas Simpson, Esq., Wetwood, Leeds, won the foremost position with two fine Palms, two Cycads, a *Dasyliroium*, and *Pandanus Veitchii*, all admirably cultivated. Mr. Cottam was second with excellent Palms, *Cycas revoluta*, *Phormium tenax variegatum*, and a remarkably fresh and well-coloured example of *Anthurium crystallinum*. L. Hanson, Esq., had the third prize with smaller plants, but for excellency of culture they were not surpassed in the Exhibition. They comprised *Latania borbonica*, *Cycas revoluta*, *Dracæna draco*, *Yucca filamentosa variegata*, and *Crotons majesticum* and *Johannis*. Mr. Raper exhibited remarkably well in this class, which was an excellent one.

Mrs. Cole & Son won the chief position in the class for six stove or greenhouse Ferns with a beautiful collection, consisting of a grand *Dicksonia antarctica*, *Thamnopteris australasica*, *Cibotium Schiedeii*, fine; and three *Gleichenias*—*speluncæ*, *rupestris*, and *Mendeli* in superb condition. Besides the first prize a bronze medal was awarded to this collection for excellency of culture. Mr. Eastwood, gardener to F. W. Tetley, Esq., Fox Hill, Leeds, was placed second with a grand *Cibotium Schiedeii*, *Alsophila australasica*, *Goniophlebium subauriculatum*, very good; *Lomaria gibba*, *Cibotium princeps*, *Dicksonia squarrosa*. Mr. West, gardener to T. Smith, Esq., Headingley, Leeds, won third honours, extra prizes being awarded to Mr. Hanson and Mr. J. Rhodes. Mr. Wright was first in the class for three fives with luxuriantly grown plants; Messrs. Tetley and Rhodes having the remaining prizes. All the competitors in the above classes exhibited highly meritorious collections. In the open class for twelve hardy Ferns Mr. C. Rylance and Mr. Goodchild, gardener to Mr. C. Naylor, Potterneton, Leeds, secured the prizes with very good collections.

ORCHIDS.—These were not numerous, but some superior examples were staged, especially by Dr. Ainsworth, Broughton, Manchester (Mr. Mitchell, gardener), who won the chief prizes in the classes for six and four plants. In the former class the notable plant was the magnificent specimen of *Vanda suavis* referred to in our report of the Manchester Show, and in the smaller class the plants were *Aërides Larpentæ*, *A. Schroderii*, *Cypripedium barbatum nigrum*, and *Thunia Bensoniæ*. The second and third prizes in the class for six plants were awarded respectively to John Barran, Esq., M.P., and J. Kitson, Esq. W. Bateman, Esq., had the second prize in the smaller class. Dr. Ainsworth also secured the chief prize in the single specimen class, followed by Mrs. Halliday, Armley Lodge, Leeds, and G. Talbot, Esq.

PELARGONIUMS.—These, though somewhat affected by the extreme heat of the weather, were extremely well represented. In the open class for twelve show varieties the prizes were awarded to Mr. May, Hope Nurseries, Bedale; Messrs. T. Lazenby & Son, Clarence Nurseries, York; and Mr. C. Rylance, Aughton Nurseries, Ormskirk, in the order named, who all staged admirable specimens. In the amateurs' class for six plants Mr. Winterbourne, gardener to W. L. Joy, Esq., Wetwood Mount, Leeds, won chief honours with luxuriantly-grown and very fine examples, F. W. Tetley, Esq., being second with smaller but well-grown plants. Messrs. Rylance and Lazenby won the prizes for floriferous plants of the French decorative varieties. In the open class for Fancies the prizes were equally divided between F. W. Tetley, Esq. and Mr. May for well-grown plants but fading. Mr. Winterbourne, gardener to W. J. Joy, Esq., was awarded first honours in the class for six Zonals or Nosegays for magnificent plants of Lord Derby, François Desbois, Mrs. W. Paul, Lucius, Cherry Cheek, and Pioneer. They exceeded 4 feet in diameter, and were dwarf and extremely fresh and well flowered. T. Simpson, Esq., and W. Oxley, Esq., had the remaining prizes in this class. R. Simpson, Esq., had the chief prizes for double varieties,

also for variegated sorts. Fuchsias, Calceolarias, and Azaleas were not noteworthy, but Gloxinias were excellent. For twelve plants the prizes went to Mr. Sunley, gardener to J. Kitson, Esq.; Mr. Sunley, gardener to W. Chambers, Esq., Clough House, Rotherham; and Mr. Backhouse, gardener to Dr. Gott, Woodslee House, Leeds, all the plants having remarkably fine foliage and numerous very fine flowers. Mr. Samuel May, Seedsman, Leeds, staged a box of cut blooms of Gloxinias inserted in wet sand representing a superior strain, the colours being extremely good and the flowers well formed.

Bedding plants were remarkably well exhibited. The twelve varieties with which R. Simpson, Esq., won the first prize were *Mesembryanthemum cordifolium* variegatum, *Alternanthera versicolor*, *Verbena International*, *Calceolaria Golden Gem*, *Nierembergia gracilis*, very fine; *Coprosma Baueriana* variegata, *Pachyphyton bracteosum*, *Lobelia Ebor*, very rich; *Coleus Beauty of Widmore*, excellent; and *Ophioglossum spicatum* aureo-marginatum, very beautiful. They were grown in pans 2 feet across, and presented quite a gay appearance. Messrs. Lazenby & Sons had the second prize, also with a capital collection. There was good competition in the class for six table plants, Mr. J. House, Eastgate, Peterborough, receiving first honours with *Dracæna Guilfoylei*, *Arecæ Verschaffeltii*, *Croton Disraeli*, two plants of *Cocos Weddelliana*, and *Aralia Veitchii*. Mrs. Cole & Sons were second, and Mr. Tudgey third. All the plants were good and of a suitable size for the purpose required—i.e., not too large.

PLANTS ARRANGED FOR EFFECT.—As previously observed these collections formed a prominent feature of the Show. The prizes offered were liberal and all the collections were meritorious, but more so, it must be observed, on account of the good quality of the plants than for their artistic arrangement, the groups being generally rather too crowded and too flat. The stipulated space was not to exceed 300 square feet, and the class was an open one. The first prize of £18 was won by Mr. Tudgey. It was evident that the Judges in awarding the prize considered, and rightly so, the pleasing appearance of the collection rather than the merits, as specimens, of the individual plants composing it. The plants, however, were excellently cultivated and choice, and were arranged in a free, light, and attractive manner. The second-prize collection of Mr. House was composed chiefly of remarkably well-grown, large, and formally trained specimens, which are most difficult to arrange picturesquely, hence they lost the premier position, but were awarded in addition to the prize a bronze medal for superior cultivation. Mrs. Cole & Son had the third position, and an extra prize was awarded to Mrs. Ringrose. Some other groups, notably those of John Barran, Esq., M.P., and T. Simpson, Esq., were highly meritorious in this excellent class.

ROSES.—Several plants were exhibited in pots, those from Mr. Pybus, Monckton Moor, Ripon, and Mr. May, who won the chief prizes, being very good indeed. Some excellent stands of cut blooms were also exhibited. Messrs. Cranston & Co., Hereford, won the chief prizes in the nurserymen's classes of forty-eight and thirty-six single blooms and twelve triplets with splendid collections, Messrs. Paul & Son, Cheshunt, being second in each class with admirable stands. Mr. May had the third prizes in the two first-named classes, and Mr. House in the twelve triplets. In the amateurs' classes A. G. Soames, Esq., Irnham Park, Bourne, won the first prize for eighteen blooms with a very good collection indeed. The prize was given by Mr. May. Mr. Soames was also considerably in advance of other competitors in the class for twelve blooms. The same exhibitor also won Messrs. Cranston & Co.'s for twelve blooms of Hybrid Perpetuals with a remarkably good collection, containing, however, a yellow Rose—a colour which has not yet been achieved in this section. Prizes were also offered by Messrs. Paul & Son, but we did not obtain the names of the winners of them. In the open class for twelve Tea-scented Roses three very fine collections were staged, and the prizes were awarded to Messrs. G. Paul & Son, A. G. Soames, Esq., and Messrs. Cranston & Co. in the order named. The two professionals always exhibit well, and we must congratulate Mr. Soames for the excellent position he obtained in such good competition. The blooms staged by this gentleman were very far in advance of those of the Yorkshire amateurs, who have evidently something to learn both in growing Roses and setting them up.

Splendid collections of stove and greenhouse cut flowers were exhibited by Mrs. Cole & Son and Mr. Letts, gardener to the Earl of Zetland, Upleatham, who won the chief prizes in the classes for them. The bouquets and stands of flowers were not remarkable for superiority of arrangement, and do not call for particular notice.

FRUIT.—The display was not extensive, but the produce generally was of superior quality. In the collections of six varieties Mr. Bannerman, gardener to Lord Bagot, Rugeley, won first honours with remarkably good dishes, consisting of a fine Pine; good Black Hamburg and very superior Muscat of Alexandria Grapes, bunches full, berries fine and admirably finished; excellent Royal George Peaches, well-coloured Elruge Nectarines, and a Trentham Hybrid Melon. Besides the first prize of £5 a silver Knightian medal was granted for the collection, the Judges considering that the Muscat Grapes alone well merited the special honour. Mr.

Wallis, gardener to Sir H. S. Thompson, Bart., Kirby Hall, York, was awarded the second prize for splendid and well-finished Black Hamburg Grapes and good examples of Chasselas Musqué, remarkably fine Strawberries, and good Peaches, Nectarines, and a capital Melon—a most creditable collection, and nearly equal to Mr. Bannerman's. Third honours went to Mr. Clark, gardener to the Marquis of Ripon, Studeley Royal, Golden Champion Grapes being very well exhibited in this collection. Grapes were generally excellent, some superior, especially the Black Hamburgs exhibited by Mr. Ferguson, gardener to B. Shaw, Esq., Selby, which not only secured the first prize in their class, but were also awarded a special silver medal, which they justly merited. The bunches were handsomely shaped and berries fine, regular, black, and well finished; they were indeed model bunches for dessert purposes. Mr. Sutton, gardener to H. Bentley, Esq., Woodlesford, had the second prize for excellent produce, and Mr. Johnson, gardener to Mrs. Noble, Boston Spa, was placed third for larger and capital examples, but not perfectly ripe, or they would have had a higher position in the prize list. In the class for the heaviest bunches Mr. Ferguson won chief honours with a remarkably good bunch of Black Hamburg weighing 3 lbs. 14 ozs., the berries being large, black, and well finished. Mr. North was placed second with the same variety, weighing 2 lbs. 7 ozs., and Mr. Clarke third, weight 2 lbs. 3 ozs., both bunches having good and well-finished berries. White Grapes were not noteworthy. Mr. Letts won the first position in the class for Melons with a fine fruit of Colston Bassett; Mr. Hinds, Otterspool, being second with Malvern Hall, large; and Mr. Wallis, Kirby Hall, third with Queen Emma. Peaches were good, the prizes going to Messrs. Clark, Sutton, and Purdy in the order named; and the prizes for Nectarines were won by Messrs. Wallis, Bannerman, and Clarke, the same exhibitors securing the prizes for Figs. A few very good Pines were staged, Mr. Letts securing the chief prize; and Mr. Hinds won first honours in the class for Strawberries with Sir C. Napier, Mr. Wallis being second with British Queen, and Mr. Clark third—all staging excellent dishes. A new, large, highly coloured, and good-flavoured Strawberry exhibited by Mr. Hinds was highly commended by the Judges.

The Exhibition was admirably managed by Mr. Clark, the Secretary, and an active Committee, whose great courtesy we desire to acknowledge. The elegant luncheon under the able presidency of Mr. Alderman Addyman was a pleasing adjunct to a successful Show.

BROCKHAM ROSE SHOW.

It falls to my lot as Judge to be present at many Rose shows, from the grand metropolitan fête in the Crystal Palace and Alexandra Park to the small country town in Scotland whither I hope to wend my way next month; but my experience of to-day is something quite novel—in a most charming place situated in the midst of the verdant Surrey hills. The grounds of Holmwood Park are opened by the kindness of Mr. Gough Nicholls to the members of the Brockham Rose Club. In a tent pitched under the wide-spreading Beeches are arranged the boxes which its members have entered for competition, and in an inner tent the various objects from which they are entitled to select their prizes, for no money is given at this Show; and altogether a more delightful reception of the queen of flowers cannot be imagined. As might be expected, as it is confined to amateurs living in the immediate neighbourhood, the Exhibition is not extensive, but evidently great care is taken by the exhibitors that the exhibits should be worthy of the occasion. Our friend the Rev. Alan Cheales, whom the readers of the Journal know so well as "A. C." and to whom so many feel indebted for the admirable rules for judging which mainly owe their existence to him, was *facile princeps*, his box of twenty-four containing some splendid blooms, and in his Teas and Noisettes some lovely examples of a very lovely class. The stands of twelve Madame Lacharme exhibited by Mr. Stone and of twelve Souvenir de la Malmaison shown by Mr. Mortimer were both so good that they received equal firsts. The blooms of Comtesse de Nadaillac, Climbing Devonians, and Madame Margottin in the winning stands were very good. The prizes were allotted thus:—Twenty-four single trusses—first, Rev. A. Cheales, second, Mrs. Mortimer. Twelve ditto—first, E. G. Stone, Esq.; second, George Drayson, Esq.; third, E. Horne, Esq.; fourth, Mrs. Seymour. Six ditto—Lady Mary Legge. Eight varieties, three trusses of each—first, E. Horne, Esq.; second, Rev. A. Cheales; extra, Mrs. Mortimer. Four varieties, three trusses of each—first, Lady Lawrence; second, Capt. Lang. Twelve trusses of any one kind—equal first, Mrs. Mortimer and E. G. Stone, Esq.; second, Lady Lawrence. Twelve Teas and Noisettes—first, Rev. A. Cheales; second, Mrs. Mortimer. Six Teas or Noisettes—first, E. G. Stone, Esq.; second, E. Horne, Esq. Best Tea or Noisette—first, E. G. Stone, Esq.; second, E. Horne, Esq. Best any other variety—first, Rev. A. Cheales; second, Mrs. Mortimer. One device of Roses and foliage—first, Mrs. Bruce Nichols. Device of any flower combined with foliage—equal first, Mrs. L. Gordon Clarke and Mrs. Benecke. Hand bouquet of Roses—Miss Cheales. Best buttonhole bouquet—first, Mrs. Bruce Nichols; second, Miss

Edith Cheales. Mr. G. Paul brought a box of new Roses from the Old Nurseries, Cheshunt, containing some fine blooms of his seedlings Sultan of Zanzibar, John Bright, Duke of Teck, Mrs. Laxton, Duke of Connaught, Marchioness of Exeter, &c.; and Mr. Henry Appleby contributed some cut blooms of Roses and also some plants from his nursery to decorate the tent.

I have many reminiscences of Rose shows, but certainly amongst the most pleasant of them will be the delightful day passed at Holmwood Park with all its lovely surroundings. The air of quiet and refinement that pervaded it was so thoroughly characteristic of the best kind of English country life, and the graceful hospitality of the owner added so much of pleasure to it, that I shall ever retain a most lively recollection of the day, and I can only hope that the Brockham Rose Club may have many years of increasing prosperity.—D., Deal.

ROYAL HORTICULTURAL SOCIETY.

JULY 2ND.

A VERY interesting meeting was held in the Council-room. It was not a "show," for there was no attempt at display, and nearly all the exhibits were either new or otherwise noteworthy. Plants, flowers, fruit, and vegetables were represented, and the meeting was of an essentially practical nature.

FRUIT COMMITTEE.—Henry Webb, Esq., V.P., in the chair. Mr. Wm. Chapman, gardener to the Marquis of Anglesey, West Park, Salisbury, sent a seedling Melon named "John Chapman," which was inferior in flavour. Mr. J. Dell, Stoke Rocheford, Grantham, sent a seedling Melon of great excellence. He stated in his communication that he had grown it for six years, and had found it very hardy and prolific. It has a smooth deep yellow skin, slightly netted, with a very small stalk and pale green flesh. It was awarded a first-class certificate, and the Committee named it Dell's Hybrid. Mr. H. A. Mann, gardener to Mrs. Hornsby, St. Vincent's, Grantham, sent a seedling Melon called Mann's Hybrid, but it was not of sufficient merit. He also sent a dish of Nectarines, to which a letter of thanks was awarded. Mr. E. Gilbert of Burghley Gardens, Stamford, sent a seedling Melon called Netted Victory. It is a fine, round, yellow, very thin-skinned green-fleshed variety, peculiarly and coarsely netted. It was of great excellence in flavour, and a first-class certificate was awarded. Mr. Gilbert also sent a red-fleshed variety called Lord Mayor, but it was not equal to the former. Mr. John Monro of Potter's Bar sent two seedling Melons; one, a red-fleshed variety called Lord Salisbury, was not of any merit; the other, Prince Bismarck, a white-fleshed variety, was also inferior.

Mr. Richard Gilbert sent specimens of Laxton's seedling Pea, "The Baron," one of those large-podded varieties like Superlative. He also sent Marvel, a fine-looking Pea containing as many as ten peas in a pod. It was certificated at Chiswick four years ago. Mr. H. J. Hardy, Stour Valley, Bures, Essex, sent specimens of Sequel Pea. This is said to be a free-bearer, and bears a considerable resemblance to a pure stock of Dickson's Favourite. Mr. Cowburn, Sunbury Park Gardens, sent specimens of Paris Green Cos Lettuce under the name of "Sunbury Park," and Mr. Turner sent specimens of a new early Potato called Early Bird.

FLORAL COMMITTEE.—Dr. Denny in the chair. Prominent amongst the plants exhibited was a collection of Lilioms, Colochortuses, and Freesias from the New Plant and Bulb Company, Lion Walk, Colchester. Amongst the Lilies were L. dalmaticum, stately and rich; L. japonicum colchesterii (Van Houtte), rich cream colour; L. Brownii, L. Harrisonii, L. parvum, L. Thunbergianum marmoratum flore-pleno, semi-double; and its dark variety Horsmanii, and the rich L. philadelphicum. Besides Freesia refracta, with its yellow lower segments, its variety F. refracta alba was exhibited and awarded a first-class certificate. It is a lovely flower for bouquets, a rival almost to the Stephanotis, and has a delicately primrose-like perfume. Calochortus venustus, C. luteus, and C. macrocarpus were very beautiful; and exceedingly rich—intense violet—was Tritelia laxa grandiflora.

Mr. J. R. Pearson, The Nurseries, Chilwell, Nottingham, exhibited four seedlings from Pelargonium echinatum—namely, Pixie, Hybridum, Ariel, and Beauty. The prevailing colour of the flowers is rose, with dark maroon spots on the upper petals, and white centres. The elegance and freedom of flowering of these plants render them very valuable for summer decoration; and it is quite refreshing to see such a collection after the plethora of Zonals, which are now almost bewildering by their numbers. Mr. Pearson's plants were highly commended by the Committee.

Some very fine Ivy-leaved Pelargoniums were exhibited by Mons. V. Lemoine, 67, Rue de l'Etang, Nancy, to two of which—Elfrida, deep rosy lilac, and Lucie Lemoine, bluish suffused with pink—were awarded first-class certificates. The flowers are very large and the trusses are good, and these varieties cannot fail being valuable for decorative purposes. A first-class certificate was also awarded to the double variety A. F. Barron, which has been previously exhibited and referred to.

A cultural commendation was awarded to Mr. Heims, gardener to F. A. Philbrick, Esq., Avenue Road, Regent's Park, for a splendidly grown example of Cattleia gigas with thirteen grand

flowers, one of the finest plants of this rich Orchid ever seen. Messrs. Chantrier freres, a Montefontaine, Oise, France, sent Croton Baron James de Rothschild, a very robust variety with yellow and crimson veins. It was passed by the Committee, perhaps on account of its somewhat coarse appearance.

Several new Roses were submitted to the Committee. Mr. Turner exhibited Dr. Sewell, a rich velvety Rose of the colour of Xavier Olibo; petals smooth and of great substance, slightly reflexed, and blooms of excellent form—a splendid Rose, which secured a first-class certificate. A similar award was granted to Penelope Mayo, which was shown in a style we have not before seen, and was superb. Another remarkably fine Rose was exhibited by Mr. Turner—namely, Harrison Weir, a rich, full, solid Rose that will be heard of again. Its colour is extremely bright crimson scarlet, and the petals are of great substance. Messrs. Paul & Son, Cheshunt, exhibited Charles Darwin, a rather small, well-shaped, richly coloured crimson Rose, which appeared identical with one named Congress in Mr. Turner's stand. Messrs. Paul also exhibited Duke of Teck, too small for exhibition, but a valuable garden Rose, deep carmine; also Countess of Darnley, a full Rose of excellent form, very deep rose colour, and highly promising. Messrs. W. Paul & Son, Waltham Cross, exhibited their fine new Rose Duchess of Bedford, which has been previously described, and a first-class certificate was awarded for it; they also exhibited an attractive box of May Quennell, good blooms of Dudley Baxter, and a few others. Mr. C. Noble, Bagshot, exhibited blooms of the floriferous crimson bedder, and also of an unnamed seedling Rose raised from Maurice Bernardin. The new Rose is remarkable as having the refreshing perfume of the old Provins Cabbage Rose, which is not contained, so far as we are aware, by any other crimson Rose.

A splendid collection of Verbenas was exhibited by Mr. Cannell, Swanley, Kent—Beauty of Langleybury, lavender blue, edges of petals pure white, well defined; Pretty Mary, maroon, rich; Spitfire, scarlet; La Lovie, pale blue, white eye; Neptune, plum, white eye; Isa Brunton, purplish plum, white eye; Annie, cerise and white striped; Lord Cranbrook, immense truss and pips rose purple, are a few of the more noteworthy varieties in this fine collection, which was highly commended. Mr. Smith, Tollington Road, Nurseries, exhibited dwarf striped double, semi-double, and single Petunias, which were highly commended. Mr. Cauldwell, The Ivies, Wantage, exhibited a good strain of Auricula-flowered Sweet Williams, also good Antirrhinums. Mr. Dean also exhibited good and brightly-coloured Sweet Williams. G. F. Wilson, Esq., F.R.S., was awarded a vote of thanks for blooms of the beautiful Lilium Kramerii, showing its different shades of colour, also varieties of L. pardalinum. C. Pache, Esq., Brighton Road, Birmingham, sent plants of a Pelargonium well named Golden Jewel, for it has foliage resembling that of Golden Chain, with the symmetrical double flowers of the well-known variety Jewel. Mr. R. Parker, Exotic Nursery, Tooting, exhibited Umbilicus Sempervivum, and Lilium martagon plenum, very double and fine. Messrs. J. Laing & Co., Forest Hill, sent Gloxinia Papillon, a charmingly spotted variety, very attractive; and Messrs. James Carter and Co., exhibited scarlet Eschscholtzia Mandarin, and a lacinated variety of Phlox Drummondii.

From the Society's Gardens at Chiswick came well-flowered examples of Torenia Fournieri. The plants have been grown under cool treatment and were laden with richly coloured flowers. This is the most valuable annual of recent introduction, and will find its way into most greenhouses and flower markets.

IMPRESSIONS OF THE NATIONAL ROSE SHOW.

THAT it was a great success, that this was greatly owing to the admirable arrangements of the Hon. Secretaries; that it is a wonderful season for Tea Roses; that such a box as Mr. Cant's twelve Boule d'Or was never seen of the kind before, and how does he manage to get that hard-hearted Rose to open herself to him? that Horace Vernet and Marie Baumann were represented in perfection; that Capt. Christy's new seedling brought out by Messrs. Paul & Son is of great promise; that Jean Liabaud, though wonderful in colour, is inferior in form to good old Camille de Rohan, and that the latter ought to be shown more than it is; that this is a Le Havre year, which is a Rose that everyone ought to have; that the Crystal Palace is perfection for a Rose show with perfection weather; finally that it will be all in our Journal, and that everyone is wanting to see the account.—A. C.

KINGSTON AND SURBITON HORTICULTURAL SOCIETY.—JUNE 26TH.

THE fourteenth annual Show of this excellent Society was held at Norbiton Park on one of the hottest days on record. Stove and greenhouse plants are as a rule well exhibited at this Show. Mr. Hinnell, gardener to F. A. Davies, Esq., Surbiton, was awarded

the first prize for nine plants; Mr. Croxford, gardener to Mrs. Dunnage, Surbiton, the second; and Mr. Moorman, gardener to Miss Christy, Coombe, the third. In the class for six plants T. V. Sutton, Esq., Gibbon Road, Kingston, won first honours for a very even and well-bloomed collection; Mr. Crafter was placed second; and Mr. Watson, gardener to — Bryant, Esq., first for three plants.

Six exotic Ferns came from Mr. Hinnell; Mr. Attrill, gardener to J. C. Freake, Esq., Bank Grove, Kingston; and Mr. Crafter, gardener to the Rev. W. Finch, Woodlands, Kingston Hill, who were placed in the order of their names; and for three plants Mr. J. Watson, gardener to Capt. Cundy, Mr. Moorman, and Mr. R. Watson divided the honours between them.

The class for nine Fuchsias was a very good one, Messrs. R. Watson, Moorman, Beckett, and Crafter being the principal winners.

In the Pelargoniums there was a considerable falling-off in numbers of exhibitors of these plants. The collections staged by Mr. Croxford were good, and well deserved the awards given to them—three first prizes and one second. Mr. Beckett, gardener to J. C. McConnell, Esq., Esher, also exhibited well in the classes for nine and six Show and Fancy varieties.

Six very tasteful groups of plants for effect were set up for the President's prize. Mr. Attrill was awarded the first prize, Mr. R. Watson the second, and Mr. Buckland the third; and for the prizes offered by Sir Trevor Lawrence, Bart., for a single specimen plant in flower Mr. Moorman won the first prize with a very large *Bougainvillea glabra*, Mr. Buckland the second with a well-bloomed *Stephanotis*, and Mr. Hinnell the third prize with a neat plant of *Dracophyllum gracile*.

For cut Roses the heat was most trying, especially to those who had a distance to bring their blooms. Mr. Moorman was a good first for twenty-four Roses, distinct; Mr. Mace, gardener to Capt. Eastwick, Teddington, occupying the second place; and Mr. Gray, Ditton Hill, the third. For twelve blooms Mr. Crafter was placed first and Mr. L. Stephenson second.

Fruit was very well shown, Messrs. Attrill, R. Watson, Croxford, and Child taking the principal prizes.

Vegetables were also very good and numerous exhibited; Mr. Moorman, Mr. Croxford, and Mr. Buckland being placed first, second, and third respectively for twelve sorts; and Mr. Crafter, Mr. Pavey, and Mr. Beckett for six sorts, were placed in the order of their names.

Dinner-table decorations were as usual well done, Mrs. Clay and Mrs. McConnell taking the two leading first prizes.

The productions exhibited by amateur growers were better than are often seen at local shows, Mr. Nagle and Mr. Sutton taking the lion's share of the prizes. Cottagers were also in great force, and right well do they take the advantage of classes open to them, there not being a class set apart to them but what was full to overflowing.

NOTES AND GLEANINGS.

ONE of the most attractive objects in the meeting hall of the Royal Horticultural Society on Tuesday last was a PORTRAIT OF THE REV. M. J. BERKELEY, painted by Mr. J. T. Peele of Fitzroy Street, Fitzroy Square. The portrait is an admirable one, and is a faithful representation of one whose name will be a lasting one in the annals of natural science. The ultimate destination of the picture is the rooms of the Linnæan Society at Burlington House, but it will remain at South Kensington for a few weeks in order that the friends and admirers of the gifted philosopher may have an opportunity of seeing it, and of testifying the regard in which they hold him, by sending their contributions to the portrait fund, either to the Treasurer, Dr. Hogg, 99, St. George's Road, Eccleston Square, S.W.; or to Dr. M. T. Masters, 41, Wellington Street, W.C.

THE MAIDSTONE SHOW held on the 26th ult. was, we are informed, an excellent one. Very good collections of plants were staged by J. W. Braddick, Esq., Lady Howard de Walden, Major Best, Captain Brenchley, G. A. Dodd, Esq., Rev. Stuart Robson, and others. The Misses Jones and Mr. Pearce were the chief exhibitors of cut flowers. Roses were not quite so numerous as usual. F. Warde, Esq., of Farleigh, gained the first prize for twenty-four varieties, while L. A. Killick, Esq., was awarded first prize for twelve varieties, and J. Holingworth, Esq., first in the China, Noisette, Tea, or Bourbon classes. The vegetables were well represented. Fruit was not sent in large quantities, but a bunch of Grapes exhibited by W. Laurence, Esq., and which gained the first prize, was excellent. The Peaches and Nectarines sent by Capt. Brenchley were also very fine.

THE third summer Exhibition of the BRIXTON HILL STREETHAM, AND CLAPHAM HORTICULTURAL SOCIETY was held on Wednesday and Thursday, June 26th and 27th. The

Exhibition, we are informed, was a good one, but owing to the lack of interest taken in the Society's efforts to hold a summer Show in addition to their annual autumn Show, by the inhabitants of the neighbourhood, the Society cannot, we regret to say, be congratulated on scoring a financial success. There was good competition in the plant and fruit classes, and vegetables of excellent quality were exhibited. A Society which embraces within its limits so many good gardeners who are anxious to stimulate each other in the work of superior cultivation, merits the support of the affluent of the district. Mr. R. Hall is the Secretary of the Society.

AT Orton Hall, near Peterborough, the beautiful seat of the Dowager Marchioness of Huntley, we saw the other day the finest plant of LAMARQUE ROSE that ever came under our notice. It is growing near and is trained to the south wall of the kitchen garden, and is evidently of great age, for its stem resembles that of a timber tree. The branches cover over a great extent of wall, and the tree—for tree it is—bears annually many hundreds of charming blooms. A specimen such as this is highly worthy of being covered with glass, for apart from the value attached to so old and fine a tree, the blooms it produces if valued commercially would soon more than compensate for the cost of the structure necessary for its preservation.

BEFORE our next issue the great horticultural Show of the year—namely, the PROVINCIAL SHOW of the Royal Horticultural Society, will have opened at Preston. The superior examples of culture of plants, flowers, fruits, and vegetables that will be displayed in competition, and the various articles that will be on view, such as implements, garden structures and requisites in their most improved forms, afford an opportunity for gardeners and all interested in horticultural pursuits for obtaining information and gathering instruction such as seldom occurs. We are glad to learn that many employers are making arrangements for enabling their gardeners to attend the Show, for a visit of gardeners to Preston next week cannot fail to be of mutual advantage both to them and to their employers.

IF we may judge by the great number of FLOWER SHOWS now occurring an unusual amount of interest must be taken in gardening pursuits. Perhaps among no class of men is such a spirit of emulation existent as among gardeners and amateurs engaged in gardening; and to encourage such who are endeavouring to improve themselves and to advance the work with which they are identified, we have given this week a larger share of space than usual in recording the honours won by skilled cultivators in various districts. Very glad are we to note the general excellence of the exhibits at many local shows. Exhibiting when not overdone—*i.e.*, made a trade of, is an agreeable mode of relaxation, and is a valuable means of affording practical instruction, leading directly to improved cultivation and the better management of gardens under the influence of the several horticultural societies which are established throughout the country.

THE following suggestions, says the "Journal of Forestry," will enable one to MEASURE THE HEIGHT OF A TREE or other standing object near enough for practical purposes. Place a small mirror in a level position on the ground at a little distance from the tree, then step backward until the top of the tree is reflected in the centre of the mirror. The height of the tree equals your height multiplied by the distance of the tree from the mirror, divided by your distance from the mirror.

EUCALYPSINTHE.—This is the name of a new French beverage prepared from the Gum Tree (*Eucalyptus*). It is said to be obtained by distillation from the leaves, and to be at once grateful to the palate, exhilarating, and not only quite harmless but possessing many useful medical properties. This new beverage appears to be largely made and consumed in Marseilles.

PEACH-GROWING has increased to such an extent within a few years as to become a leading interest in fruit culture. The Peach can be successfully cultivated almost anywhere south of 42°, and below an altitude of 9000 feet. Just before the ripening season there is much solicitude among growers. Thousands of baskets of Peaches have been known to rot on trees in Delaware in a single warm wet day from the want of dry air and sun. It is claimed that few crops give so large and quick returns for the capital and labour invested as the Peach. The Peach business has reached massive proportions. One leading Boston commission house last season sold \$140,000 worth of the fruit, and smaller concerns averaged

from \$20,000 to \$5000. Nearly all the Peaches received in Boston come by rail by quick Peach-train transit, avoiding New York. Last season the daily newspapers published interesting stories respecting these Peach trains.—(*American Cultivator*.)

THE ROYAL HORTICULTURAL SOCIETY'S PROVINCIAL SHOW AT PRESTON.

CONSIDERABLE progress, we are informed, has been made with the work connected with the holding of the great Show in the extensive grounds adjoining the Preston Pleasure and Nursery Gardens at Ribbleson. The site to be occupied by the grand pavilion is now nearly completed. The mounds upon which the plants are to be arranged are now turfed and present a very effective appearance; the pond has been constructed and filled with water; and the artificial waterfall,

which has been ingeniously and artistically devised, is in a very forward state. All this work is from the designs of Mr. J. F. Johnson, landscape gardener, of Belfast, and late curator of the Botanic Gardens in that town. The uprights for supporting the canvas of the pavilion, and which will be covered with creeping and other plants, are now erected, and in a few days everything will be in order for the reception of the exhibits. Over the large pond at the entrance of the grounds Mr. H. Inman, of Stretford, near Manchester, is now throwing a pretty bridge, and when completed it will present a very picturesque object in the view. The sides are formed of gnarled pieces of polished wood of fantastic shapes, and altogether it is a very ingenious construction.

Mr. Barron with his foreman and some men have arrived, also 10 tons of poles and canvas. The large tent and its adjuncts are ready for the canvas, the walks all gravelled, and by the time will be well set with watering and rolling. Mr. Troughton, the

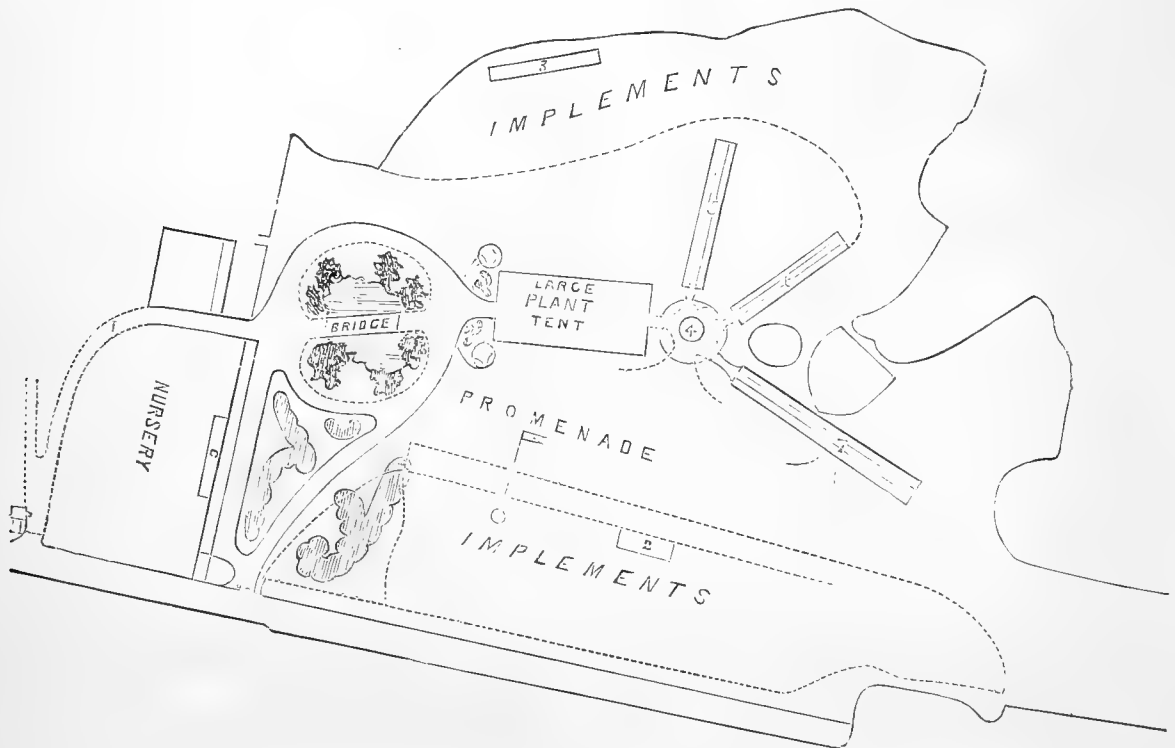


Fig. 1.—PLAN OF THE SHOW GROUND AT PRESTON.

Manager of the Preston Nursery Company, has had the town water laid where necessary, so that this item will not fall short however hot the weather. The whole field is now being mown over. About forty greenhouses are being erected, and nearly all are being glazed and painted; some are expensive, being filled with stages and piping by Messenger & Co., Richardson and Co., Halliday & Co., Perry, Webster, Cranston & Luck, and Thorley. Boilers, tents, wire work, rustic work, and other garden requisites are represented.

The suite of offices are nearly complete, including post and telegraph offices, wires being laid from the town to the ground. There are rooms for Exhibitors, for the local Committee, the Press, the London Council, the local Council, the Secretaries and Clerks, and all other necessary conveniences.

Mr. Troughton has made a good and firm road to the tents 24 feet wide, so that vans can move easily. The entries we understand are very numerous, and everything is in a forward state, and a great and good Show is anticipated.

The main entrance to the Exhibition will be through the gates of the Preston Nursery Company, the Manager of which has charge of the ground.

The accompanying outline plan of the Show ground will afford a general idea of the arrangements and preparations for the approaching great horticultural gathering of the year.

1, Approach through the nursery; 2, First-class refreshments;

3, Second-class refreshment; 4, Circular tent; 5, Fruit; 6, Table plants; 7, Cut flowers.

WIMBLEDON HORTICULTURAL SOCIETY.

JULY 2ND.

THIS Society held its sixth annual Exhibition in the beautiful grounds of Wimbledon House, kindly lent by Sir H. W. Peek, Bart., M.P., who is also the President of the Society. Stove and greenhouse plants were fairly well exhibited. Mr. W. Smith, gardener to G. C. Joad, Esq., Oakfield, was awarded the first, and Mr. Moorman, gardener to Miss Christy, the second prize. In the class for four plants Mr. Bentley, gardener to Sir Thomas Gabriel, Mr. Lyne, gardener to A. Schlusser, Esq., and Mr. Stratton, gardener to Miss Forbes, were placed in the order of their names.

Fuchsias were very well shown, and the competition was very close between Mr. Stratton, Mr. Lyne, and Mr. Moorman, who were placed first, second, and third respectively. Caladiums were well exhibited by Mr. Stratton and Mr. Lyne, and the best six Ferns came from Mr. Bentley, who exhibited an admirable collection, Mr. Smith being placed second with plants almost equal to them. There were five competitors in the class for four Ferns, and the collections were very evenly matched, Mr. Lyne being awarded the first prize, Mr. Bridger the second, and Mr. Moorman the third. Gloxinias were better exhibited than we usually see them, Mr. Lyne staging some excellently grown plants. Zonal Pelargoniums were grand, Mr. Lyne occupying the first place for

six plants, and Mr. Stratton the second. Doubles were much finer and better bloomed than it is customary to find them, the same exhibitors occupying the same position as for six Zonals. Table plants were well shown, and the best twelve came from Mr. Smith, the second best from Mr. Lyne, and the third from Mr. Stratton.

ROSES were, considering the heavy rains of Sunday and Monday night, very well exhibited, twenty collections being staged. For the special prizes offered by Sir Trevor Lawrence, Bart., Mr. Moorman easily won the first prize, Mr. J. Clark the second, and Mr. J.

Reddin, gardener to E. Reeves, Esq., third. For twelve blooms (special given by C. J. Dickens, Esq.) Mr. Scott, Clinton Villa, Wimbledon, took the first prize with an exquisite collection. The best collection of twenty-four in the gardeners' class was staged by Mr. Moorman, and the first prize for twelve was taken by Mr. J. Curtis, gardener to W. Barlow, Esq., Atherton Grange. Mr. J. E. Coleby had the first prize in the amateurs' division.

Both fruit and vegetables were excellently exhibited, but the judging was not completed when our reporter left the grounds.

We noticed spirited competition among the cottagers, whom



Fig. 2.—RHODODENDRON FRAGRANS.

this Society greatly encourages in the shape of numerous special and other money prizes provided.

RHODODENDRON FRAGRANS.

We figure this *Rhododendron* because it is not so well known, or at any rate so extensively cultivated, as its merits deserve. In the collection of Mr. Anthony Waterer, that has so long produced such a gorgeous effect in the gardens of the Royal Botanic Society at Regent's Park, *R. fragrans*, one of the smallest of all the varieties exhibited, was certainly one of the most generally admired. Its flowers are chaste in form, pleasing in colour (deep rosy pink with nearly white centre), and they are deliciously fragrant. Attractive as they are in appearance their delightful perfume is their chief charm. In this

respect they are surpassed by no other *Rhododendron*, and are equalled by few; they are, indeed, as sweet as the Honeysuckle. The habit of the shrub is dwarf and compact, and it flowers with the greatest freedom. For front rows in shrubberies, where *Rhododendrons* and American plants thrive, *R. fragrans* should have a place, and it is equally valuable for conservatory decoration. It is one of the most distinct and useful varieties—for we believe it is a hybrid—of the handsome genus to which it belongs, and cannot fail to give satisfaction wherever it is well grown.

FUCHSIA RICCARTONI.—In the gardens at Orton Hall, Peterborough, we recently met with what is not commonly found in the eastern or midland counties of England—namely, a large

specimen of this valuable Fuchsia, which has evidently passed through many winters uninjured. We have seen this beautiful old Fuchsia in "tree" form in a few gardens on the south coast, also in some gardens in sheltered districts in Scotland, but have never before met with one in the somewhat flat, cold, and low-lying district in which this specimen is growing. The secret of its preservation is probably owing to its local position, for it is growing on a pile of rockwork. There it not only does not make luxuriant and consequently tender growth, but its clusters of coral-like flowers are seen to great advantage. The fact that this plant has existed so long and thrives so well on its artificial altitude in a cold and flat district, suggests a means of growing this beautiful old Fuchsia in other gardens to which it is now a stranger. The plant is very valuable for affording cut sprays for vase decoration.

ROMFORD HORTICULTURAL SOCIETY'S SHOW.

THE annual Show of the above Society was held on the 27th ult. in the grounds of C. P. Matthews, Esq., The Bower, Havering. This gentleman's picture gallery was also thrown open to the visitors, and proved to be a source of great attraction. The Show, held in a most picturesque spot, was scarcely so good as usual, at the same time it was a very creditable Exhibition.

In the class for eight stove or greenhouse plants in flower Mr. Lane, gardener to General Fytche, Pyrgo Park, was first, and Mr. Bones, gardener to D. McIntosh, Esq., Havering Park, was second. Mr. Lane staged a very even group, not large, but well-flowered specimens. In the corresponding class for four varieties Mr. Douglas, Loxford Hall, was first, and also for six Orchids, in the latter staging good examples of *Dendrobium nobile*, *formosum*, and *giganteum*; *Lælia purpurata*, *Odontoglossum Alexandræ*, *Stonei*; and *Masdevallia Harryana*. For six Cape Heaths Mr. Bones was first, and Mr. Lane second. Mr. Douglas was first for six foliage plants, and Mr. Lane second. The last-mentioned exhibitors occupied the same positions in the class for six Lycopods. For six exotic Ferns Mr. Douglas was first, and Mr. Woodhams, gardener to C. P. Matthews, Esq., second. Mr. Bones was first for six large-flowering and also for six fancy Pelargoniums. There were also classes for Fuchsias, Gloxinias, Coleuses, Caladiums, double-flowering Zonal and Tricolor Pelargoniums, but the specimens staged were in most instances very poor. Mr. Meadmore, nurseryman, Romford, won the first prize for the most tastefully arranged basket of plants.

There were classes for cut Roses, but the competition was very limited. For forty-eight blooms Messrs. Saltmarsh & Son, Chelmsford, were first, and Mr. Meadmore second; the former had good blooms of *Capitaine Christy*, *Comtesse de Serenye*, *François Michelin*, *Elie Morel*, *Madame Ferdinand Jamin*, *La France*, *Mdlle. Marie Cointet*, *Rubens*, *Souvenir d'un Ami*, &c. Mr. Pemberton was first for twenty-four, and Mr. Nairn second. Mr. Pemberton was also first for twelve, and was also commended for a box of eighteen cut blooms of *Marquise de Castellane*. Mr. Pemberton's exhibits were remarkable for their freshness and good colour. Messrs. W. Paul & Son, Waltham Cross, staged five boxes of cut Roses, not for competition, which were highly commended by the Judges and much admired by the visitors. All alike were good, the following especially so:—*Amélie Hoste*, *Annie Laxton*, *Capitaine Christy*, *Comtesse d'Oxford*, *Duchesse de Caylus*, *Edouard Morren*, *Madame Lacharme*, *Mdlle. Eugénie Verdier*, *Marie Baumann*, *Marquise de Castellane*, *Princess Beatrice*, &c.

The fruit, notably the Strawberries and Grapes, made a good display and attracted much attention. For a collection of six varieties of fruit Mr. Bones was first and Mr. Lane second. Mr. Bones had good Black Hamburg and Muscat of Alexandria Grapes, Blood Pine, City Feast Melon, Peaches, and Nectarines. There was good competition in the class for black Grapes, all staging Black Hamburgs good in bunch and berry, but in several instances the colour was wanting, the only exception being those staged by Mr. Douglas and placed second; Mr. Tarance, Chadwell Heath, being first. Mr. Douglas was first for white Grapes with good Muscat of Alexandria, and Mr. Lane was second. For three varieties Mr. Douglas was first, staging good examples of Canon Hall Muscat, Black Hamburg, and Buckland Sweetwater. Mr. Worthing, gardener to A. Moss, Esq., Chadwell Heath, was second. Mr. Bones was first for Peaches, staging a good dish of *Violette Hâtive*; second, Mr. Worthing. Nectarines were poor, and no first prize was awarded. Mr. Lane was first, and Mr. Iggulden, gardener to R. B. Wingfield Baker, Esq., Orsett Hall, secured the prizes for Melons. Strawberries were staged in large quantities, some of them being very fine. Some of the exhibitors were evidently too fond of monstrosities; not so, however, the Judges, preference being given to perfect-shaped fruit. For three varieties Mr. J. Smith was first with good dishes of Sir J. Paxton, Dr. Hogg, and James Veitch; Mr. Groom was second.

The vegetables collectively made a good display, but some of the exhibits were very poor indeed. In the gardeners' class for eight varieties Mr. Iggulden gained the first prize with a very

credible and much-admired basket, made up with the following varieties:—Globe Artichokes, Vick's Criterion Tomatoes, Hamersmith Kidney Potatoes, Nantes Horn Carrots, Early London Cauliflower, Seville Longpod Beans, Culverwell's Telegraph Pea (the finest Pea in the Show), and the American Strap-leaf Turnip. Mr. Lane second. There were five competitors in this class. Mr. Douglas was first for a brace of Cucumbers with Tender-and-True, and Mr. Worthing second. Mr. Iggulden was first for kidney Potatoes, var. *Mona's Pride*; Round Potato Alpha; Turnips, Sutton's Snowball; Lettuce, Scott's Superb; and Peas, Huntingdonian. Mr. Lane was first in the remaining classes. Both the amateurs and cottagers staged some very creditable vegetables, and the former fairly eclipsed the gardeners with vases, button-hole bouquets, &c.

BRIGHTON SUMMER SHOW.

On last Wednesday and Thursday in sultry weather the Brighton Summer Show was held at the Pavilion. The Exhibition was a good one, plants, cut flowers, and fruit with few exceptions being excellent, the prizes in all the classes being fairly well contested; and what was perhaps even more important, the space provided for the various exhibits was well filled—no small matter in these days of defaulters, who at the last moment so frequently upset the well-planned arrangements of the Secretary and often spoil the show.

The plants were the leading feature; most of them were good, and some were of much excellence. Mr. W. Balchin, Hassocks Gate, Cliftonville, carried off the first prize for eight fine-foliaged plants with a magnificent *Cycas revoluta* with a dense head of dark green spreading frondage, quite 12 feet in diameter and without a blemish; a huge example of *Croton pictum*, wonderfully rigorous but not in good colour, much of the young foliage being of a pale yellow; *Areca sapida*, with large, fresh, and quite young frondage; *Pandanus Veitchii*, in which size had also been acquired at the expense of colour; an excellent *Latania borbonica*, a huge *Croton variegatum*, a fine example of that very ornamental *Cycad Encephalartos villosus*, and a really magnificent *Croton majesticum* quite 2 yards in diameter and as much in height and splendidly coloured. The second prize was taken with a creditable display, including fine examples of *Latania borbonica* and *Dracæna Cooperi*, by Miss Brodie (gardener, Mr. C. Driver). Mr. W. Miles was third, and had a very fine highly coloured plant of *Alocasia macrorrhiza variegata*.

In the class for foliaged plants by local growers Miss Brodie came first with four good but unequal-sized plants, of which an *Anthurium crystallinum* with ten fully developed leaves each about 18 inches by 12 was very beautiful. The second-prize group, which went to C. Armstrong, Esq. (Mr. E. Meachin, gardener), contained a grand example of *Pandanus Veitchii* in splendid colour; and in the third-prize group a *Caladium Prince Albert* Edward was striking, not only by its large size but the richness of its leaf tints—green intermingled with silvery white, charmingly suffused with delicate pink and with veinings of deep rich pink.

In the open class for specimen plants in bloom Mr. Balchin was also first with an *Ixora javanica floribunda* in fine bloom. The plant was pyramidal in shape, 5 feet high, and some 6 feet in diameter at its base. The second prize was awarded to the Duke of Richmond, Goodwood (gardener, Mr. F. Rutland), for a large *Anthurium Scherzerianum* with about three dozen spathes not quite all open. The third prize went to F. Shenstone, Esq. (gardener, Mr. A. Venall) for an *Allamanda*.

Mr. W. Balchin again stood first in the open class for eight exotic Ferns, and deservedly so, for his plants were all fine, forming a bold and graceful group. *Davallia pyxidata* was 6 feet in diameter. Then there was a capital *Dicksonia*, a *Gymnogramma Martensii*, the twining-stemmed *Cyathea Dregei* so attractive by the purple tinge of its fronds, a *Cibotium regale*, and an *Adiantum Sanctæ-Catherinæ*. In the class for local exotic Ferns Miss Brodie, Eastbourne, came first with a very fine Golden Fern (*Gymnogramma Laucheana*), a still finer Silver Fern (*G. peruviana argyrophylla*), a *Lomaria gibba*, and a *Dicksonia*. A display of hardy Ferns by Messrs. James Ivery & Son, Dorking, consisting of some seventy plants, was a prominent and attractive feature, to which an extra prize was deservedly awarded.

The Orchids were none of them large. Mr. Rutland came first in the open class with eight good plants, the best of which were *Brassia versicolor* with seven spikes, an excellent *Cypripedium barbatum* with about two dozen of its charmingly pencilled flowers, and a good-sized plant of *Lycaste aromatica*. Mr. Meachin's six plants stood first in the local class. His *Lælia purpurata* with four large spikes was very good.

There is always a goodly display of Begonias at Brighton. F. Shenstone, Esq., Barcomb (gardener, Mr. A. Venall), came first with four tall plants in fine flower but somewhat wanting in form. The second-prize plants were of better form, but unfortunately betraying a little too much floral millinery. Of Fuchsias there were several groups, none of them really good, the whole being deficient in finish and uniformity.

The whole of these plants were in the pleasant cool rooms of

the Pavilion and the remainder were in a tent on the lawn. Our inspection of them was a brief one, for the tent was excessively hot, there being no ridge ventilation, and the flowers suffered very much—so much, that when our notes were taken on the second day of the Exhibition hardly a Rose was recognisable, so much were they faded. This state of things should and could be altered by using a tent with a ridge ventilation similar to that of the Bath and West of England Society. Of the plants in the tent the most noticeable were a magnificent *Pimelea decussata* by Mr. Meachin, who took first for local stove and greenhouse plants, having also a very good *Plumbago capensis* and a magnificent example of the popular *Bougainvillea glabra*. Mr. Balchin had good plants of *Erica Cavendishii* and *Dracophyllum gracile*.

In Pelargoniums Mr. W. Miles, West Brighton Nursery, stood pre-eminent, his six fancies which gained the first prize in the open class being so good that we give the names:—Victor Hugo, Princess Helena, The Rover, Countess of Dudley, Evening Star, and Mrs. Hart, the first, third, and fifth being dark and the other three light kinds. Mr. Miles also took first prizes for large-flowered Pelargoniums and zonal Geraniums, Mr. Meachin taking first for Pelargoniums in the local class.

Cut Flowers.—Of these there were Roses, Messrs. Mitchell, Piltown, Uckfield, winning the Ashbury cup, value ten guineas, with seventy-two varieties; Mr. Piper, nurseryman, Uckfield, being second, and Mr. W. Balchin third. In Teas Messrs. Mitchell were first, and amid all the fading flowers their Madame Margottin, Adrienne Christophle, and Souvenir d'Elise Vardon retained their freshness and beauty. In the class for twenty-four Roses Rev. R. C. Hales was first, and Mrs. Woolard, Cocksbridge, second.

The Veitch Memorial medal and prize of £5 for bridal and ball-room bouquets were won by A. J. Atkinson, Esq. (gardener, Mr. J. Hudson), with creditable bouquets. There were four competitors for this much-coveted prize, and most of the bouquets impressed us as being heavy and crowded. In the class for dinner-table decorations of wild flowers Miss Chilmaid of Keymer came first with three very pretty stands both light and tasteful. The first prize for stands with exotic flowers was awarded to A. Allison, Esq. (gardener, Mr. R. Downing), for a central stand with three tiers somewhat overdone with spray, and two side stands consisting of round glass dishes, to each of which height was imparted by the stem and foliage of a young Palm cut off for the purpose; Mr. F. Gallop, Western Road, Brighton, taking the second prize, and Mr. Miles the third. Some pretty collections of cut flowers were shown, Mr. Rutland taking first and Mr. J. Holmes, Daneford Cottage, West Grinstead, second; Mr. Morse and Mr. Balchin also taking first and second prizes for cut flowers of a similar kind in another class. Mr. Cannell of Swanley Nursery had fine displays of cut Verbenas and zonal Geraniums, both gaining certificates of merit.

Fruit.—A small but choice exhibition of fruit was by no means the least striking feature of the Show. Grapes were very good. T. B. Heywood, Esq. (gardener, Mr. J. Ridout), truly winning a first prize with three bunches of well-coloured Black Hamburgh, Mr. Rutland being second; Col. Haddington, Hurst (gardener, Mr. H. Wickham), taking first for some excellent Muscat of Alexandria, Mr. Rutland being second. In local prizes some well-finished Buckland Sweetwater beat some much larger but unripe Muscats, and the black Grapes of W. L. Ewart, Esq. (gardener, Mr. J. Vickery), were worthy of the first prize awarded them. Peaches, Nectarines, Pines, Strawberries, and Melons were all well represented, the two first fruits being especially good.

RICHMOND HORTICULTURAL SOCIETY'S SHOW.

JUNE 27TH.

EVERY year this Society's Shows improve both in the number and quality of the exhibits, and the Society also enjoys the most distinguished patronage. H.R.H. the Prince of Wales intended honouring the Show with his presence, but at the last moment was prevented doing so; but those highly popular Royal personages the Princess Mary of Cambridge and H.S.H. the Duke of Teck and family were present during the afternoon, and spent upwards of an hour in inspecting the various exhibits. Previously to the departure of the Royal personages the Duchess of Teck handed to Mr. Chancellor, the indefatigable Hon. Sec. of the Society, a gold medal in commemoration of his active services in connection with this Show. The medal bore the following inscription:—"Richmond Horticultural Society. Presented to Mr. Albert Chancellor in recognition of his services in promoting the formation of the Society, 1875."

The Exhibition was a very large one, and consisted of 140 classes. The productions exhibited for the numerous special prizes had a large tent especially devoted to them; it had also the most pleasing effect of any tent in the Exhibition. A second tent was set apart for cut Roses and other cut flowers; a third, 170 feet by 54, contained the groups and the larger collections of flowering and foliage plants; in a fourth were the collections of fruit and vegetables; and a fifth contained the cottagers' productions. The weather was oppressively hot, but under the shade of the fine

trees which abound in the old deer park there was a most refreshing breeze.

Class 1 was for a group of plants arranged for effect in space not to exceed 100 square feet. There were seven collections, and all of them were tastefully arranged. First honours fell to Mr. Kinghorn, Sheen Nursery, Richmond, whose group was beautifully arranged, and the plants themselves were rich in quality. A splendid *Cocos Weddelliana* gracefully occupied the centre of the group, with other Palms, *Dracenas*, *Phormiums*, *Aralias*, *Begonias*, *Crotons*, and decorative *Pelargoniums* dispersed throughout the group. The front of this group was exquisite, having as a prominent central plant *Todea superba*, and closer to the edge still a pan of *Nertera depressa*, and an outer border of *Adiantum gracillimum* relieved with small plants of *Grevillea robusta*. Messrs. Hooper & Co., Covent Garden, received the second prize. Their group was comprised of Palms, well-coloured *Crotons*, *Begonias*, *Adiantums* *farleyense*, *gracile*, and *cuneatum*, with an outer border of *Gloxinias* and *Lycopodium denticulatum*. Mr. W. Bowell, gardener to Sir H. W. Parker, Richmond, was placed third; and Mr. W. Brown, St. Mary's Nurseries, Richmond, fourth with good collections.

Fine-foliaged plants were numerous and exceedingly well exhibited, especially the collections from Mr. Bates, gardener to W. H. Punchard, Esq., Poulett Lodge, Twickenham, in the open class for nine, and Mr. Kinghorn in the class for six. The first-prize collection in the class for nine plants consisted of *Vereschaffeltia splendida*, *Alocasia metallica*, *Euterpe edulis*, *Pandanus Veitchii*, *Seaforthia elegans*, *Cycas revoluta*, *Croton Weismannii*, and a very fine plant of *Alocasia macrorrhiza variegata*. Mr. Cornhill, gardener to J. S. Virtue, Esq., Oatlands Park, was awarded the second prize in this class. For six foliage plants Mr. Kinghorn was placed first with *Stevensonia grandifolia*, *Eurya latifolia variegata*, a perfect pyramid; *Dicksonia antarctica*, *Yucca aloifolia variegata*, a very fine-coloured *Croton Weismannii* and *Pandanus Veitchii*. Mr. Bates received the second prize, and Messrs. Hooper and Co. the third; Messrs. Attrill and Crafter also exhibited well in this class.

Ferns were also remarkably good, and the first prize for eight exotics was awarded to Mr. D. East, gardener to J. Wigan, Esq., Clare Lawn, East Sheen, who exhibited *Adiantum amabile*, *Davallia Mooreana*, *Gleichenia flabellata*, *Adiantum formosum*, *Cibotium Schiedei*, *Dicksonia antarctica*, *Cyathea dealbata*, and *Alophilola excelsa*. Mr. Cornhill was placed second, and Mr. Wells, gardener to the Hon. J. C. Vivian, Selwyn Court, third. For six exotic Ferns Mr. C. Attrill, gardener to J. C. Freae, Esq., Bank Grove, Ham, was placed first; Mr. W. Smith, gardener to A. Cooper, Esq., Twickenham, second; and Mr. B. Morrell, gardener to J. S. Rutter, Esq., The Cedars, Richmond, third. Hardy Ferns were in splendid condition. Collections from Mr. James, gardener to F. Watson, Esq., Isleworth, and Mr. Crafter, gardener to the Rev. W. Finch, Woodlands, Kingston Hill, were very fine indeed. Other exhibitors of Ferns were Mr. Kinghorn and Mr. Morrell.

Stove and greenhouse plants were exhibited in the open class for nine plants by Messrs. Jackson & Sons, Kingston; Mr. Hinnell, gardener to F. Davis, Esq., Anglesea House, Surbiton; and T. V. Sutton, Esq., Gibbon Road, Kingston, who were placed in the order of their names, all exhibiting neat and well-flowered collections. In the class for six plants open only to the Richmond district, Mr. Attrill, Mr. Crafter, and Mr. Sallows, gardener to J. J. Flack, Esq., Twickenham, were first second and third respectively. Show and Fancy Pelargoniums, considering the lateness of the season, were capitally shown by Mr. James, Mr. Levesley, Spring Grove, Isleworth, and Mr. Wells, who were placed in the order of their names in the open class for Show varieties; and in the class for Fancies Mr. James received the first prize, and Mr. Wells the second. Zonals came from Mr. Crafter, Mr. Morrell, and Mr. Wells. Mr. B. E. Tipping was first for Silver-variegated Pelargoniums, Mr. Sallows second, and Mr. J. W. Wells third. For Golden-tricolor and Bronze collections the same exhibitors with the addition of Mr. Attrill shared the honours between them. *Caladiums* formed an important feature of the Show, Mr. G. Marlow taking the first place with large and well-grown examples of Mrs. Dombain, *Chantini*, Prince Albert Edward, Mrs. Henry Bull, *Splendidum*, and Max Koch; Mr. Morrell and Mr. Bowell receiving the second and third prizes. Foliage *Begonias*, *Gloxinias*, and *Lilium auratum* were well shown by Messrs. Crafter, Kinghorn, and James.

Orchids came from Messrs. Jackson & Son and Mr. Bates, who were first and second respectively in the open class for six plants, and Mr. Bates received the first prize for the special prizes offered by Messrs. Rollisson & Sons.

Mignonette was extensively exhibited, there being several special prizes for this favourite flower, Mr. Chancellor, Mr. Bates, and Mr. James receiving the greater share of the prizes.

Fuchsias, excepting the two first-prize collections, were poor, Mr. Wells receiving the first prize for nine plants, and Mr. Morrell for six. For a single specimen plant Mr. Bates won the first prize with a well-bloomed *Stephanotis floribunda*, Mr. James being placed second with *Aërides Lobbi*, and Mr. Morrell third with *Burchellia capensis*.

ROSES were very extensively exhibited by nurserymen, gardeners, and amateur growers. The quality taken collectively was fairly good, and would have been much better but from the extraordinary heat which prevailed, and which is severely felt under canvas. This caused some varieties to expand too freely and almost perish before the day had passed. For thirty-six and twenty-four varieties, distinct, three trusses of each, Messrs. Paul and Son, Cheshunt, were in their customary places, winning first honours in each class; Mr. Rumsey, Joyning's Nursery, Waltham Cross, was placed second in the latter class. For twenty-four, distinct, amateurs (open), Mr. W. Mace, gardener to Capt. Eastwick, Teddington, won the first place; and Mr. J. W. Moorman, gardener to Miss Christy, Coombe Bank, the second; and Mr. James the third in this class. For twelve blooms, distinct, Mr. James was awarded the first prize with a very uneven stand; Mr. W. Scott, the Treasurer of the National Rose Society, being placed second for a collection fully equal if not superior to the first-prize collection; and Mr. Stephenson, gardener to T. Bull, Esq., Teddington, third. In the class open to the Society's district only, Mr. James, Mr. Laing, Mr. East, and Mr. Roberts appeared to share the principal honours between them, Mr. James gaining several first prizes. An extensive display of Roses in pots was exhibited by Messrs. Veitch & Sons and Messrs. Paul & Son, which attracted considerable admiration. Messrs. Veitch & Son also contributed several boxes of cut blooms, and being only cut late on the morning of the Show remained throughout the day remarkably fresh. The same remarks apply to Messrs. Lee & Son, who sent a collection from their Ealing Nursery which both for colour and freshness we have not seen surpassed this season. A box of twenty-four *La France* were as perfect as they possibly could be and were much admired.

FRUIT.—Seventeen classes were set apart for fruit, which was generally excellent. For a collection of four dishes Mr. Edwards, gardener to J. Budgett, Esq., Ealing Park, was awarded the first prize for fine Barrington Peaches, Queen Pine Apple, black and white Grapes, and a Melon; Mr. G. Cornhill being placed second; and Mr. Fry, gardener to L. F. Baker, Esq., Haydon Hall, Eastcott, third. For black Grapes Mr. Bates was placed first with well-coloured fine fruit; Mr. Peed, Roupell Nurseries, Norwood Road, second; and Mr. C. Davis, gardener to the Rev. G. Porter, Rotherhampton, third. In the corresponding class for white Grapes Mr. Fry, Mr. Peed, and Mr. Masters, Otlands Park, were placed in the order of their names. In three other classes for Grapes Mr. Bates was to the front with well-finished examples, Mr. James taking second honours in two classes. Mr. James won the first prize for a Scarlet-fleshed Melon, and Mr. Morrell for a Green-fleshed Melon. Mr. Bates exhibited a very fine Queen Pine Apple and received the first prize. Mr. Lake, gardener to E. Ascherson, Esq., Twickenham, took the first prizes both for Peaches and Nectarines, Mr. Ramsay and Mr. Wells being placed second and third. Strawberries were very fine and were exhibited in great numbers.

VEGETABLES.—Good as the fruit was the vegetables were better, and a large display was made in the dozen or more classes set apart for their encouragement. In the collection of ten sorts Mrs. Mackinnon received the first prize, Mr. Wagstaff the second, and Mr. J. Coombes the third. The best Peas came from Mr. Marlow, Cauliflowers from Mr. Cratter, Vegetable Marrows, Cucumbers, and Onions from Mr. Morrell. The cottagers' productions were also as equally numerous and in excellent condition. There are also a number of smaller special prizes which we must omit.

The best dinner-table decoration, consisting of three vases, came from Mrs. Butcher, South Norwood, Mr. Kinghorn being placed second, and Mr. Brown third. The first prize for a single vase fell to Mrs. James Wigan, and that for the best hand bouquet to Mrs. Butcher. Mrs. Woodford, Sheen House, exhibited the three best arranged buttonholes, and Mrs. Gabriel Moran the best three vases or ornamental stands of flowers in the Society's district.

A silver medal was awarded to Mr. B. S. Williams, Holloway, for a group of new and rare plants; a silver-gilt medal to Messrs. Veitch & Son for a similar collection, and a silver medal to Messrs. Paul & Son for their collection of pot Roses. Bronze medals were awarded to Messrs. Jackson & Son, to Messrs. Osborne & Co., to Messrs. Rollisson & Sons, Mr. James Wareham, Mr. C. Turner, Messrs. Lee & Son, and Mr. Chambers.

WORK FOR THE WEEK.

FLOWER GARDEN.

THE present season has been most favourable for such plants as are generally used for carpet bedding. *Alternantheras*, *Pyrethrums*, &c., are growing freely and colouring splendidly. The lines, divisions, and groundwork where such plants are used should be kept well defined. The success of carpet bedding is due more to thorough keeping than elaboration of arrangement. Peg *Alternantheras*, pick off flowers and press close to the ground *Antennaria tomentosa*, *Cerastium*, *Pyrethrum*, *Sedums corsicum*, *glaucum*, and *lividum*. *Gnaphalium*, *Coleus*, *Iresine*, *Verbenas*, *Petunias*, *Nasturtiums*, and other plants amenable

should be pegged with a view to covering the ground as speedily as possible, as the season for the summer display is only short at best. Beds that have been mulched will require but little attention in weeding and watering, as much of that labour will be saved; but those not mulched should have the surface stirred so as to keep down weeds and keep the surface loose. Subtropical plants can hardly be overwatered provided the weather is hot. Mulch with thoroughly decayed manure, staking and tying as the plants advance in growth. *Dahlias* and *Hollyhocks* should be well attended to in staking and tying. Thin-out the shoots of *Dahlias* forming large close heads, and secure each shoot separately to the central stake by looping, avoiding bunching them. Herbaceous plants are very vigorous owing to the moist weather. Such as require it should have frequent attention in staking and tying, having regard to the height of the plants, regulating the stakes accordingly. Herbaceous *Lobelias*, *Delphiniums*, *Phloxes*, &c., should also be staked. *Pinks* and *Carnations* should be neatly staked and loosely tied before they are too far advanced. Push on their propagation by layers and pipings. The latter strike readily in sharp sandy loam in gentle bottom heat as that of a half-spent hotbed, covering with a handlight, keeping well shaded from the sun, and affording a gentle sprinkling overhead occasionally so as to keep the atmosphere moist.

Cuttings of *Roses* root freely at this time of year, selecting the ripe wood, as it will be when the flowers are shed, and inserting under handlights upon a north border. *Teas* as well as *Perpetuals* are amenable to this mode of propagation. They also strike freely in gentle bottom heat, shading from sun and keeping moist and close until growing freely, when air must be gradually admitted and the shading withdrawn by degrees. *Roses* of the *Perpetual* class as they go out of bloom should be shortened back to two or three joints, cleansing the foliage if at all infested with aphids by an application of soft soap, 2 ozs. to every gallon of water and a pint of tobacco juice, well wetting the bushes in every part, allowing it to remain a day and then wash thoroughly with the garden engine. Stir the surface lightly and give a good mulch, watering overhead and at the roots copiously in hot weather, encouraging a second growth and bloom. *Briar* and other stocks will shortly be in a sufficiently forward state for budding. Dull or moist weather is most suitable for the operation, as the bark then separates freely. Select buds on wood that has just borne flowers; they are always more mature than those obtained from gross barren shoots. Success in budding depends on selecting sound mature buds and in extracting the wood, being careful in removing the latter not to bend back the bark too sharp or bruise it in any way, as in that case it will turn black, and, of course, fail.

Clematis beds are beautiful in proportion to the attention bestowed upon them. The plants at this season have a straggling growth, and should have the shoots spread out and secured so as to keep the beds evenly furnished. When left to roam at will they are very beautiful in the wild or undressed ground, but in their natural beauty are inadmissible in dressed grounds. Climbers and other plants employed for covering walls, &c., should be frequently attended to in thinning, stopping, and nailing, tying and otherwise regulating the shoots, washing as may be required with the garden engine to cleanse the foliage of insect pests, applying if need be an insecticide. *Roses* of the *Maréchal Niel*, *Gloire de Dijon*, &c., type should have the old flowered wood cut out, and the young wood laid-in to replace it for next season's flowering. Cuttings of double yellow and double red *Wallflowers* and double *Rocket* may yet be put in. They succeed best under handlights, or will succeed upon a shady border if kept moist. Bulbs in the herbaceous border should be marked with a hard wood peg as they become ripened; any clumps which have become too large should be taken up, the border should have a liberal addition of fresh compost, be well and deeply stirred, and the best of the bulbs again planted. Those not required may be planted elsewhere, or they may be stored in sand until planting time in late summer or autumn. The bareness may be taken away by planting any reserve plants, as half-hardy annuals or spare bedding plants. Hoe and rake the borders so as to give them a neat appearance. Wage incessant war with weeds by plying the hoe and raking frequently. Constant attention should be paid to mowing, edging and rolling the walks in wet weather so as to maintain perfect neatness, upon which so much depends in rendering the general effect pleasing and satisfactory.

FRUIT HOUSES.

Melons.—There are now so many varieties of Melons that to point out any special kind as possessing particular merit were superfluous. Almost everything constituting high flavour, no matter what the variety may be, is due to the treatment to which the plants are subjected. The greatest aid to flavour is a rather dry and warm atmosphere with thorough ventilation, but this will not impart high flavour to fruit that during its period of swelling has been neglected for the want of timely removal of the superfluous growth. Liberal supplies of water up to a certain stage are as essential to a thick melting flesh as is the heat and well-ventilated atmosphere to secure high flavour. After the fruit is set and is the size of an egg the laterals should be kept pinched to

one leaf; and if this results in too much foliage, so that the leaves upon the primary shoots are crowded or shaded by them, thinning of the laterals must be resorted to, removing a little at a time. The plants should be gone over at least once, and in the case of very vigorous plants twice a week, for the removal of superfluous growths, the principal leaves being fully exposed to light and air. Until the fruit commences netting it should have every encouragement in swelling by maintaining a good moisture at the roots and sprinklings at closing time overhead. Close the house or frame at 80°, and if the temperature rise to 85° or 90° all the better, but after the fruit commences netting less atmospheric moisture should be given, a light sprinkling at closing time, maintaining thorough moisture at the roots until the fruit shows indications of ripening, when the sprinkling overhead should be discontinued and air freely admitted. If the old shoots are cut away the young ones will soon show fruit and set freely. If the plants do not show indications of a free growth, are infested with red spider, or decayed at the collar, it is better to root them out and make a fresh start. Remove the old soil entirely, and, where bottom heat is obtained from fermenting material only, a little fresh hot dung worked in will sufficiently revive the bottom heat for this time of year. Observe thorough cleanliness in houses, as the after-success depends upon the plants having a good start. Plant on hillocks rammed well down, and maintain a moist growing atmosphere. Pot off any plants requiring it and keep them sturdy. Impregnate the blossoms daily until the requisite number of fruit is set, then remove all the flowers, and earth-up the plants. Look well after canker at the collar of the plants, as it spreads rapidly; it is overcome by rubbing the infected parts with quicklime. Shade only to prevent flagging. Take care to cut the fruits with a considerable portion of stem when removing them before quite ripe in order to prolong the season of supply.

Cucumbers.—This is a good time to sow for raising plants for early autumn fruiting, good plants for planting out being had in about a month. Liberal attention and treatment must be given to plants in full bearing, thinning-out the exhausted growths and foliage, laying-in young bearing wood and earthing-up the plants at short intervals. Apply liquid manure copiously, and maintain an abundance of atmospheric moisture, particularly in hot weather. Be careful not to overcrop young plants; do not allow the fruit to hang too long upon the vines. Syringe well at closing time, about 4 P.M. No fire heat will now be necessary, but when making new beds a gentle bottom heat is essential to a good start. Dust the plants with sulphur about once a week, and if aphids appear fumigate gently. If worms are troublesome water with weak lime water.

PLANT HOUSES.

Stove.—*Jasminum Sambac flore-pleno* has pure white flowers about the size of a Daisy, which are very fragrant and most useful for cutting. It is easily grown from cuttings taken off with a heel inserted in half loam and sand and placed in bottom heat. When rooted pot into 3-inch pots and continue them in bottom heat until well established, pinching out the points of the shoots to induce them to break near the base of the plant; train horizontally so as to induce well-furnished plants, shift into larger pots, and ultimately train to a trellis for flowering. Turfy loam with a fourth of well-decayed manure or leaf soil and a free admixture of sand will grow it well. Keep the plants well syringed, as they are subject to red spider. *Æchmea discolor* and *Æ. miniata* are useful for summer and autumn decoration, and should be grown in quantity—single crowns in 7-inch pots. Turfy loam or peat will grow them, with a free admixture of sand and a few nodules of charcoal, and crocks broken rather small to keep the soil open and sweet, good drainage being provided, as free watering is required, the plants being epiphytal in their native habitats. They should be grown near the light upon a shelf or where they can have plenty of light, and then they throw up their flowers strongly, remaining in good condition for six weeks. *Tillandsia Lindenii* is very beautiful, having narrow, channelled, gracefully curved leaves, which are longer than most of the genus. Its blue flowers produced in succession from its lengthened scapes have a grand effect. It is of easy culture, succeeding under ordinary stove treatment. The earliest-flowered *Ixoras* will push strongly if now placed in brisk heat and humid atmosphere, and will flower again in autumn, being then very useful for cutting; afford weak liquid manure once a week if the pots are full of roots. *I. aurantiaca* and *I. coccinea* are two of the best for this purpose. The second batch of *Euphorbia* and *Poinsettia* cuttings will by this time be rooted and should be moved into larger pots, as from their free-rooting nature they become stunted in growth if the roots are confined in small pots whilst the plants are young. Cuttings of most hardwooded plants will now be in a half-ripened state and will root freely, especially if they have the advantage of bottom heat and are kept close. They should be inserted singly in small pots, as they may be transferred to larger without receiving any check, growing them on through the winter, they then being considerably advanced. Plants that may be so increased now are *Combretum purpureum*, *Clerodendrons Balfourianum*, *splendens*, and others of the climbing section, as well as the shrubby, such as

fallax, *fragrans*, and *Kämpferi*, likewise *Bougainvilleas*, *Dipladenias*, *Æschynanthuses*, *Gardenias*, *Hexacentris mysorensis*, *Ixoras*, *Medinillas*, *Stephanotis*, *Rondeletias*, *Tabernaemontanas*, *Thunbergias*, and *Meyenias*. Choice varieties of *Gloxinias* should be increased by leaf-cuttings; they strike much more surely now than earlier in the season, when the leaves are liable to damp off. They should be shaded from bright sun and kept rather close.

Young plants of *Stephanotis floribunda* being forwarded for next year's flowering should have the shoots trained near the glass in all the light possible with free ventilation, so as to induce firm growth. Young plants of *Clerodendron Balfourianum* should be continued in heat after flowering so as to encourage growth, training the shoots near the glass; if they require more pot room shift at once into larger pots. Turfy yellow loam with a fourth of well-decayed manure and a free admixture of sand is a suitable compost. See that *Palms* and *Dracenas* do not suffer from attacks of red spider and by want of water at the roots. Syringing the under side of the leaves will free them of red spider. *Gesneras Cooperi*, *Donckelaari*, and others of that type may be increased from cuttings, the flower stems being cut down to a couple of inches above the bulb. Young growths will proceed from the crown, and these when 2 inches in length should be inserted singly in small pots in equal parts of sand and loam, having water only to keep from flagging. After rooting encourage all the growth possible.

Insects at this time of year increase rapidly. Constant attention must be paid to fumigation against thrips and aphids, syringing against mealy bug and red spider, and sponging for the clearance of scale, otherwise the plants will soon become seriously disfigured and many permanently injured. Dull weather should be chosen for this, for it is then much more comfortably done than when the days are bright and sunny. To keep men at such work in hot stoves in bright hot weather is indicative of bad management and thoughtlessness. Advantage should be taken of wet days to push forward the cleaning of plants, it being false economy to keep men working in the rain when there is pressing work on hand under glass.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense. Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (*W. T. Ward*).—On the methods of collecting and preserving insects, Green's "Insect Hunter's Companion," 1s. 6d. (Van Voorst), may be recommended. Mr. Merrin's "Lepidopterist's Calendar," 3s. 6d. (Newman), contains much valuable information about the times of appearance of butterflies and moths. As first books on these interesting insects, "British Butterflies," 1s., and "Common British Moths," 1s. (Routledge), are good. If a general glance at the whole class be desired, the Rev. W. Haughton's "Sketches of British Insects," 3s. 6d. (Groombridge), is a useful introduction, or Figuier's "Insect World," 5s. 6d. (Cassell).

GUANO WATER (*W. S.*).—A quarter of an ounce of guano to each gallon of water for potted plants, and half an ounce to each gallon for plants in beds.

ALYSSUM WIERZBICKII SEEDS (*H. S.*).—We cannot aid you. Write to Messrs. Rollison, you will have a polite reply.

STRAWBERRY (*H. D.*).—The Strawberry is a fruit.

NEIGHBOUR'S TREES (*E. W. M.*).—Unless we saw the place, and had full knowledge of the tenancy, its priority, &c., we could not venture to give an opinion.

PEACH LEAVES DISEASED (*Y. C. S.*).—They are attacked by spot. Deficient root-action is the cause. Apply copiously tepid very weak manure water.

FUNGUS ON ROSES (*Mrs. A. G.*).—See our answer on page 471 of the previous volume.

GRAPES DISEASED (*W. M. and K. M.*).—They are very severely spotted. The roots are inactive, and require tepid liquid manure. We cannot name plants from such fragments as "W. M." enclosed.

ANTS ON MUSHROOM BED (*Clifford*).—We know of no mode of excluding them unless you can sprinkle Scotch snuff over the surface.

VINE LEAVES DISEASED (*T. White*).—Water the Vines with very weak liquid manure, and give more shade and better ventilation.

GRAPE STALKS DECAYED (*W. J. C.*).—They are shanked, and it is caused by defective root-action. Apply liquid manure to the roots.

SAVING SEED OF PRIMULA SINENSIS (*C. T. H.*).—Select sturdy plants in somewhat small pots, with a truss of fine flowers fully developed, and place them on a shelf near the glass, where they have plenty of light and air. In watering take care not to wet the blossom, and in due course you will obtain a few seed pods from each plant, affording a little seed, so little that in order to obtain a large supply some dozens of plants must be reserved for the purpose. It is very advantageous to fertilise the flowers, using a camel's-hair brush.

GRAPES NOT COLOURING (*W. H. H.*).—Your Grapes are good, and would have coloured well if the Vines had not been overcropped. The plants will

not injure the Grapes, and you would do harm rather than good by applying whitewash to the glass. The temperatures are right. Give all the ventilation possible subject to the day and night heat being maintained at the figures submitted. Apply liberally tepid liquid manure to the roots, either soot water, guano water, sewage, or the drainage from dunghills, and your Grapes will probably improve considerably.

PEACHES AND NECTARINES DROPPING (*A Cheltenham Gardener*).—The evil is no doubt attributable to the trees having been so greatly neglected last year. According to your statement a great portion of the young roots must have been destroyed, and now that the swelling fruit requires support the roots are inadequate for affording the necessary supply. By laying-in young wood thinly, keeping the foliage clean, and procuring healthy root-action your trees may regain their lost vigour and bear well another year. That is the most that you can hope for under the circumstances.

TORENTIA FOURNIERI (*J. T. Brixton*).—You have been rightly informed. This plant is an annual, and a very beautiful one for greenhouse and conservatory decoration in the summer. The seed if sown in spring produces attractive flowering plants the same season. We have had no experience with sowing it in the autumn, but the experiment is worth trying so as to have flowering plants as early as possible in the spring and early summer months.

THRIPS ON VINES (*Vexed*).—Fumigate them at once for two or three nights successively. The smoke will not affect the flavour of the Grapes that are just showing signs of colouring. See notes on Vine insects in another column.

MELONS FOR AUTUMN (*G. B.*).—Strong plants planted now and a little bottom heat provided by fermenting manure will with good attention produce ripe fruit towards the end of September. Little Heath is one of the most hardy, and Victory of Bath is a free-setting and excellent variety.

PELARGONIUM FLOWERS DROPPING (*H. T. F.*).—A little ordinary gum dissolved in water and a drop placed at the base of the petals will prevent them dropping during the transit of the flowers. The flowers should be tied in rather close bunches, which should be enclosed in tissue paper, and be further securely packed with wadding. Only a very little of the gum must be applied with a small brush.

RAISING PERENNIAL FLOWERS (*Robert*).—Sow the seed at once in shallow drills in an open border, covering it very slightly with fine soil. A few plants suitable for your purpose are Wallflowers, Sweet Williams, Canterbury Bells, Delphinium formosum, Scabious, Antirrhinum, and Brompton and East Lothian Stocks. As soon as the plants are large enough to be handled they may be transplanted a few inches apart in nursery beds, and in October they may be removed to their flowering quarters.

NAMES OF PLANTS (*O. H. C.*).—*Gongora atro-purpurea*, and apparently *Maxillaria tetragona*. (*John Clyde*).—We cannot name plants from mere leaves.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

MAKING PASTURE AND MEADOW HAY.

THE making of meadow and pasture hay must be considered as a very different matter from that of making field hay; and although the machinery in use is the same as used for cutting and making field hay, yet upon irrigated meadows and others with wide open trenches the mowing machine is not always available. It is the same to some extent in the park pastures sometimes where there are a number of ornamental trees, for although where the ground is level a considerable portion of the grass may be cut with the mower, yet under the trees the grass is usually cut with the scythe, and particularly when the trees are elms. These are sure to have a number of runner roots, which throw up small twigs for a considerable distance around the trees. Some of them have very hard stems, which would be liable to break the knives of the mowing machine or disarrange the working parts of the implement. It is therefore safer to use the scythe in such cases. In order that dry pasture land and meadows should be in good order for cutting the grass with the mowing machine the ground should be looked over in early spring and all stones picked up and removed; and in the case of park lands with timber about it should be looked over in the month of April, for the winds peculiar to the month of March will be sure to scatter over the pasture more or less the dead broken branches from the ornamental timber. In some of the moist meadows requiring open trenches to lay them dry it is best to pipe-drain the trenches and fill-in level with the surface. The grass may then be cut with the machine; whereas without this advantage the crop must be cut with the scythe, which in districts where labourers are scarce is very expensive.

In order that the meadows should have the full advantage of the season they should be laid up and neither fed by cattle or sheep after the 1st of February, and as soon after as convenient they should be rolled with a heavy iron roller. In some meadows,

even after pipe-draining, there will still remain patches which produce the small rushes, and as these always start in growth before the sweet grasses they should be cut over with the scythe in the month of April, which will not only prevent the rushes from overpowering the best grasses, but it will effectually keep down the coarser grasses, which may be cut with the rushes, and thus improve the general quality of the hay. The time at which grass should be cut, as regards the quality of the hay and other matters, is of considerable importance. For instance, on much of the park land and dry pastures of a dry season it should be particularly noticed whether the finer and bottom grasses are growing, and if not the sooner the grass is cut the better. On the contrary, if the season is showery and the ground moist, although the forwardst grasses may be in bloom, yet the bottom and fine grass will continue to grow and make up a heavy crop, in which case the cutting may be deferred until the Dutch, the suckling, the bird's-foot trefoil or yellow-blossomed, the broom grass, and others are in flower. There can be no question that the colour of the hay and the aroma is a tolerable guide to quality, but this is often carried too far and accepted as the only criterion of value, for the "sweet-scented vernal grass" which contributes to nearly all pasture hay the fragrant aroma is often found on the poorest of grass lands. This is the cause of much of the hay sold in the metropolitan and other markets being of but little feeding value, although sold at a high price by reason of its bright green colour and sweet scent.

The time for cutting grass in the water meadows is different altogether, for where there is a full crop, whether the grasses are in bloom or not, it should be cut. If allowed to remain too long the grass becomes laid or lodged, and that next the ground the leaves of the grass become partially decayed, which not only damages the quality of hay, but increases the cost of cutting, and delays and deteriorates the succeeding crop. As before stated, wherever the mowing machine can be used on pastures or meadows it should be adopted, not only because it saves the labour of many men as compared with the scythe, but also because it is highly desirable that all the grass intended to make up one rick of hay should be cut as nearly as possible at the same time, so that all should be ready for carting together, and the rick finished and topped to prevent exposure to the weather. After cutting the grass the chief point, as regards making the hay, is to take into consideration the bulk of the crop and the character of the season. If the crop is light and the weather dry upon the upland and park pastures it often requires little or no labour beyond cutting, raking in, and carting. We have on various occasions cut the grass before nine o'clock in the morning, and got it into rick as well-made hay in the evening. Although this is quite exceptional it goes to show that the grass in a dry time may not be tedded several times, but the swathe only turned, and on the second or third day, according to the bulk of the crop, may be carried to the stack. This plan, however, chiefly applies to dry pastures and when the hay is required for consumption on the home farm, because in case it is required for sale more care must be taken to preserve the colour, as colour means quality in the eyes of the hay dealer. Therefore in low-lying meadows subject to night fogs the hay should always after being tedded be made into small pooks, called grasscocks, for the night, and then spread again into rows in the morning, and if sufficiently made be got into larger rows just before the waggon, as it is best to be taken up hot out of the row.

Let us now consider the question of treatment of the grass for hay when by the state of the barometer and the general character of the season we may feel assured that showery and difficult hay-making weather will prevail. In that case, instead of tedding, it will be well to only turn the swathe on the second day after cutting; on the third day to get the hay into small pooks, and then make two or three pooks into one on the day following, in which case the hay will have retained its colour. But we must still be extremely jealous of the weather, and throw open the large pooks to get them dry for carting, but only in the promise of a

fine drying day, and the probability of stacking the hay the same or following day. If the latter the hay must again be poked for the night. In the water meadows or on rich alluvial soils it is common to cut the aftergrowth for hay, in the making of which it is oftentimes best not to ted the grass, but simply make it into grasscocks, and turn them as occasion may require. But we must remember that in the short days of autumn that we cannot expect the hay to dry quickly, therefore to keep the hay in small cocks and give it time is best. It will be gradually making without risk, the cocks being only turned over occasionally; the colour of the hay will then be preserved. We knew last autumn hay made in this way so late in the season that the white hoar frost in the mornings was observed on the top of the pooks, yet this hay was eventually got to stack in fair condition for consumption of stock on the home farm.

In making the stand or staddle for the ricks it is of importance that the size of the stand should be adapted to the quantity of hay to be stacked, and we allow as a general rule that for 20 tons of hay the stand should be 13 feet wide and 30 feet long. There is practically a great objection to the stand being made too large or too small for the quantity of hay, and to have the full advantage of a proper adjustment the size may be easily altered according to the measurement we have laid down for 20 tons in a rick. Many of the statements made in our article upon field hay will equally apply to the making ricks of pasture hay. For the improvement of hay our remarks relating to spicing will apply with still more force in the case of meadow or pasture hay, for it will not only improve hay injured by rain as stated in reference to field hay, but in the case of water meadow hay partially injured through the excess of crop and the decay of the grass at bottom it will improve and give the hay a pleasant and grateful flavour, and induce the cattle to eat it, which, under ordinary circumstances, they would scarcely eat with any advantage. This matter of spicing also applies with benefit to the hay made from the poor and coarse grasses, the produce of poor and mossy pastures. For this purpose the following mixture is recommended:—Fenugreek in powder, 112 lbs.; pimento, 4 lbs.; aniseed, 4 lbs.; caraway, 4 lbs.; cumin, 2 lbs. The quantity to use for a ton of hay of the spice materials is from 2½ to 3 lbs.; the cost is 10d. per pound.

WORK ON THE HOME FARM.

Horse Labour.—As fast as the hay is fit for carting the horses will now be almost daily employed in carrying it to the rick. When the weather is fine it is well at such a busy period to do the cultivation for turnips, &c., in the mornings and carry hay in the afternoon, as it is always in better condition in the afternoon, particularly in hot still weather, the dews being often so heavy in the mornings. It is well also to be entirely prepared for stacking the hay as soon as ready by having the materials, such as faggots, &c., at hand for making the rick stands. Horse-hoeing will now be required for the mangold, early cabbages, carrots, kohlrabi, &c., and also the Swedish turnips where sown early. In the case of wet weather following immediately after the horse-hoeing, the couch grass and any weeds which may be likely to strike again should be picked up by the women.

Hand Labour.—The mangold crop and early Swedes may now be set out, and it is very important that the strongest plants should be left in preference to leaving them at any exact distance apart in the rows. The very fact of the strongest plants being exhibited shows that they have, in preference to the weaker ones, got hold of the manure, and in consequence will go on to maturity with the greater probability of becoming the largest roots, and better able also to withstand any attack from enemies such as the brown grub, &c. The hoeing of carrots should now be persevered with in order to keep the land perfectly clean, and if they are set out in the rows let it be done with a small 4-inch hoe. We prefer to clean the rows and let the plants remain yet awhile; and when the roots are about the size of the finger they may be hand-pulled for cattle, pigs, &c., as upon certain occasions we have pulled as much as ten to twelve tons per acre, and removed daily for feeding purposes. This not only preserves a sufficient number of plants to insure them against their only enemy the grub, but in the act of pulling it opens the soil and allows the remaining plants to swell with great ease. In this manner we have pulled fourteen tons to the acre for immediate use, and the main crop has produced from twenty-five to thirty tons per acre according to the season. As soon as any deficiency of plants is discovered in the mangold crop it is advisable to plant out, to fill up vacancies, some good strong cabbage plants of the Champion Cattle cabbage variety, these being the best for the purpose, as fewer plants will be required, the heads coming so large. Although the weather may be dry and the ground hard, yet they are bound to live and grow if they are set with the spade, as it opens the land so that the plants, although they may be long and strong, are introduced into the moist ground, so essential to their taking root, and if the heart of the plant is buried about an inch so much the better in very hot weather.

The work of cutting the hogweed and coarse grass on the borders of the fields is still continued, and where cut first the second cutting is now ready. Our store pigs which are now

receiving this kind of green food are doing remarkably well. In addition to the border grass they get a small quantity of broken and soaked Indian corn, with barley meal mixed so as to form a pudding. Where the farm buildings are usually coated with tar or paint this is the best time for doing the work, and we are now using coal tar from the gasworks for the purpose; and we find that cheap boarding, such as that cut from fir trees or elm, will last a great many years when it is kept tarred at the proper season, it being necessary that the wood should be perfectly dry before either paint or tar is used. The herdsman or dairyman should now be alive to the advantage in summer time of taking the dairy cows from the shaded pastures to their stalls when the sun is in full power. If left to the shade of trees only they still suffer from the annoyance of flies, and leave their manure also where it does no good. When, however, the animals are driven to their pens from about eleven o'clock till four o'clock in the afternoon they will be free from flies, and if they get a bait of green fodder in the middle of the day so much the better. They will not only give more milk, but will give it down more kindly, when they lead a quiet life in the stalls free from the irritation of flies. The heifers on the home farm that may now be from eighteen months to two years of age should be put to the bull in July and August, as they will then come to calve at a favourable time of year—that is, about the end of April or the early part of May, with a prospect of plenty of grass before them.

ROYAL COUNTIES SHOW.

TRULY a thing of progress. But a few years since it was open on one day for a few hours at Basingstoke, now it takes four days. A small field sufficed to hold everything connected with it, now it covers 22 acres, and in every way reminds one of the Royal Agricultural Society of England. It moves about from town to town in the two counties—favoured Hants and Berks, containing the residences of our Sovereign.

The spot where the Show was held this year was well chosen. It would be difficult to find a more beautiful locality than Southampton Common. Not a common in the ordinary sense of the word; not land with "barren" written on the face of it, and bearing for its crop a scanty and stunted portion of heath, but boasting of oaks that have been centuries attaining their present size, and of underwood 6 or 7 feet high, growing in patches and affording shelter both for man and beast. It is the sort of spot where from facility of concealment Prince Hal might have chased Falstaff, or where in earlier days, spite of its contiguity to a considerable town, a strong body of traders ere they left the open would conceal money and valuables, and perhaps calculate and organise means of defence before they entered the wood. We are happy to live in quieter days, when the glades, solitudes, and thickets may be put to quieter and more peaceful pursuits. It is said by a poet—

"Our groves were planted to conceal at noon
The pensive wanderer beneath their shades."

The very mention of shade is refreshing. If there were ever weather when we would run into water or under trees to find shelter from the sun (thermometer at 90° in the shade), it was on the days of this enjoyable Show. The common was a beautiful sight: the dusty road was deserted for the green sward, and little knots of well and gaily dressed people were now seen, now hidden, as they passed among the thickets, and, although out of sight, could be traced by the ringing laughter that was heard. The roadside inn was dressed-out, and the outer accommodation was such that we should almost call it the English Teniers, or wish that Wilkie were still among us to hand down to the future a representation of one of our agricultural outings, and dispel the idea so common in other countries that an Englishman takes his pleasure sadly. We have a great respect for the roadside inns. They have an air of comfort not to be found in modern and more pretentious buildings dignified by the name of hotels. The old roadside inn was a home to the wayfarer who stopped there. We saw such an one covering much ground; when it was built land was not sold by the foot. A good, large, wide entrance; a large bow window on each side; seats in front of the house; a settle round a patriarchal tree, and all crowded. Booths had established themselves, shows made a great display, and here and there a brown gipsy promised all things to all people. Clever people! they offer that which all want, but do not at once give all. There remains yet something better behind, but "she should lose her gift if she told it for anything but silver," and so one of the few sixpences see the light to purchase the knowledge "that she will on that day see a dark man, and the planets assure her that though hot-tempered he will make a very good husband." This, however, is outside, and our principal work lies within; but yet these are accessories, and some who have seen many and foreign climes may dwell on such a scene as was here, and find it would not suffer by comparison with foreign fêtes. We cannot dwell longer among our rural scenery and its inhabitants, but it will be long before we forget it. Our first feeling after we had entered the Show-yard gates was one of surprise at the growing dimensions

of the Show, and next admiration of the spot chosen to hold it. Standing close to the orchestra and looking towards the sea it was a sight of marvellous beauty.

The poultry Show was a long stride in advance and very superior to any we have before seen. As should be at an agricultural meeting *Dorkings* headed the list, inviting competitors for six prizes. There was, perhaps, less improvement in this class than in some others, but the fact is easily explained. Hampshire is become the home of some of the best *Dorkings* that are bred—birds that are “to the fore” in almost every prize sheet. We have no hesitation in saying the winners here would have had the same position anywhere. The two classes of *Cochins* were well filled with good birds, and well-known names will be seen among the distinguished. We thought there were birds of unusual merit in the Buffs and White. The Dark *Brahmas* were well represented, and the prize birds were very large and heavy. They were more numerous and more meritorious than their Light brethren. The exaggeration of the vulture hock in some instances would almost justify us in believing some amateurs seek to develop it as a principal beauty of these breeds. No breed showed more progress than the *Spanish*. Several of the pens were perfect. For many years *Hamburghs* were weak, and Pencilled and Spangled were shown in the same class; they were now divided and the entries improved in numbers and quality in consequence. There were good specimens in all the classes. The *Houdans* and *Crève Cœur*s were excellent. They proved here as elsewhere that the foreign breeds introduced into this country soon become better than their imported originals. They not only increase in size but in all points. There was a class of *Langshans*, some fine fowls among them, especially the first-prize pen. *Polands* are always weak, and this time was not an exception. Prizes were withheld, but the Judge was empowered in any such case to add those not awarded to other entries of great merit. The classes for *Bantams* were hard to judge; good specimens were common and entries were numerous. Some Black-breasted Reds were perfect, and some of the Blacks were faultless. The Variety class brought together the different breeds—Black *Hamburghs*, *Malays*, *Andalusians*, &c. Little could be said for *Rouen* and *Aylesbury Ducks*; they produced neither numbers nor quality. The Varieties showed some of the best *Buenos Ayrean* we ever saw, and also some very tame *Widgeon*.

It causes us to repeat that which we have often written—that as soon as all are agreed upon the points of any particular breed it is sure to be produced. There is great difference of opinion about vulture hocks, and in some specimens it is developed to an extent that borders on the ridiculous, the hocks almost touching the ground. It is a pity it cannot be decided whether the original *Cochin* is the bird to breed or the modern introduction. In the *Spanish* it was said the comb of the cock should be upright, and it is so. What would be thought of a new school that demanded lopping combs in *Spanish* cocks? There were very good entries of very good Game, but here again there was a novelty, several pens were shown undubbed. We confess they do not look like Game, and show to a great disadvantage against their trimmed competitors. Those who know this breed best know that they will fight, and also know that if they must fight it is a mercy to cut off comb and gills. As to the suffering of the operation, when these parts are removed they are given in small pieces to the patient, who always eats them. The birds shown were very good, but some of them are certainly too stilty. The quality of the *Geese* and *Turkeys* was excellent, but they were deficient in numbers.

The *Pigeons* alone would have formed a good show. The Carriers, *Jacobins*, *Fantails*, *Dragoons*, and *Magpies* were especially good. *Antwerps* were meritorious. No less than sixteen of the birds exhibited in Any other variety class figure in the prize sheet. The homing *Pigeons* brought twenty-five competing pens, and these again claimed sixteen notices at the Judge's hands.

Rabbits closed the Show. The long-eared measured between 18 and 20 inches. The Silver-Greys were very good in coat, and the Hare *Rabbits* were marvellously like Hares in appearance and habit.

Mr. Bailly was Judge.

POULTRY.—DORKINGS.—Coloured.—1, P. Ogilvie. 2, Mrs. Radcliffe. 3, Mrs. J. Milward. *Other varieties*—1, T. C. Burnell. 2, P. Ogilvie. 3, J. T. Cable. **COCHINS.—Buff.**—1, Rev. G. F. Hodson. 2, Miss Pasley. 3, P. Ogilvie. *Other varieties*—1, W. Howard. 2, J. Buckmaster. 3, Rev. R. S. Woodgate. **BRAHMAS.—Dark.**—1, Mrs. Radcliffe. 2, H. J. Buchan. 3, W. V. Edwards. *Light.*—1, Rev. N. J. Ridley. 2, A. Ives. **SPANISH.**—1, E. S. Harris. 2 and 3, P. F. Le Suer. **GAME.—Black Reds.**—1, H. M. Maynard. 2, W. Tyler. 3, E. Winwood. *Other varieties.*—1, E. Winwood. 2, F. J. R. Nunn. **HAMBURGHS.—Gold or Silver-spangled.**—1, T. Reeves. 2, H. Pickles. 3, C. M. Damant. *Gold or Silver-pencilled.*—1, J. T. Cable. 2, H. Pickles. 3, W. L. Bell. **FRENCH.—Houdans.**—1, Mrs. Howard. 2, C. M. Damant. 3, G. Day. *Crève Cœur.*—1, R. Wingfield. 2, P. H. Le Suer. 3, J. H. Ward. **LANGSHANS.**—1, A. C. Crowl. 2, F. J. R. Nunn. 3, H. J. Buchan. **POLANDS.**—1, T. Norwood. 2, E. L. Harris. **BANTAMS.—Game.**—1, T. W. Anns. 2, T. Randall, jun. 3, R. Wingfield. *Other varieties.*—1, R. Wingfield. 2, J. Buckmaster. 3, W. & J. Trask. **ANY OTHER VARIETY.**—1, H. Pickles. 2, G. F. Hodson. 3, J. Wiggins. 4, F. Stoodley. **DUCKS.—Rouen.**—1 and 2, P. Ogilvie. 2, Mrs. Radcliffe. *Aylesbury.*—2, Mrs. Radcliffe. *Fancy.*—1 and 2, J. W. Kellaway. 3, R. H. Ashton. **GESE.**—1, E. Woodford. 2, J. Farmer. **TURKEYS.**—1, Rev. N. J. Ridley. 2, P. D. B. Rawlins. **PIGEONS.—Pouter.**—1 and 2, E. S. C. Gibson. **CARRIERS.**—1 and 2, H. M. Maynard. 3, P. H. Jones. 4, W. D. Richardson. **JACOBINS.**—1 and 2, H. M. Maynard. 3, J. F. Loversidge. **FANTAILS.**—1 and 2, J. F. Loversidge. 3, H.

M. Maynard. **TCRBITS.**—1, C. Parsons. 2, P. H. Jones. **DRAGONS.**—1, J. D. Blackman. 2 and 3, J. Lush, jun. **MAGPIES.**—1, W. Tomlins. 2, F. Bulley. 3, J. Tanner, jun. **ANTWERPS.—Short-faced.**—1, J. E. Cottell. 2, W. D. Richardson. 3, C. Parsons. **ANY OTHER VARIETY.**—1, H. M. Maynard. 2, J. D. Blackman. 4, P. H. Jones. **HOMING.**—1, Dr. Dabbs. 2, J. D. Blackman. 3, G. H. Billett, F. Brown. 4, G. J. Lenney. **RABBITS.—LOP-EARED.**—1, J. W. Vokes. 2 and 3, R. Madgwick. **BELGIAN HARE.**—1 and 2, P. Ogilvie. 3, W. Shotton. **ANY OTHER VARIETY.**—1 and 2, J. Ellis. 3, F. R. Docking.

DONCASTER POULTRY SHOW.

The annual Show was held at Doncaster, on the Racecourse, on the 26th, 27th, and 28th ult. The weather was excessively hot, and the number of visitors very large on all the days. Fortunately the poultry, &c., were shown under a permanent shed, where they were much cooler than if they had been under canvas, and yet one celebrated *La Flèche* hen closed her career in consequence of the heat. The pens were well arranged, and ample space was afforded for the visitors. The entries were about fifty more than those of last year, and the quality was far ahead of that of any previous year.

Game headed the list. Black Red cocks were very poor with the exception of the winners. The first, a grand all-round bird, could scarcely show in a compact form on account of the heat; second a fair bird; and third very good but small and late-bred. Hens of that colour poor except the winners. Brown Red cocks were the best class of Game. The first a beautifully marked stag, excellent in style and fine in form; second not equal in colour and marking but full, better in chest and shoulder, and good in all Game properties; the third was sadly out of order and showed badly, being flat and long in hock and not at all in show form, though said to be the cup bird at Thorne. Hens very good, throughout but somewhat out of feather. Duckwing cocks first a grand coloured bird, firm and good in style; second a nice colour but very soft. Hens of that variety also good, the first one of rare quality and the next in points to the cup-winner. Pile cocks, first a smart bird well shown; second rather heavy feathered; third a fair bird. Hens were a smart lot in all respects except feather, and many were in need of a moult. *Dorkings* were very good in both classes; and *Spanish* about the best class in the Show, although some of the best were a little coarse. *Cochins*, first and third were Buffs, and second Partridge. *Brahmas* were both good classes, and for the time of year in good feather. *Hamburghs* were mixed classes. In Silvers, first was a grand all-round pen of Spangles; the second also of that variety; and third Pencils. In Golden also Spangles were first, and Pencils second and third. *Polish*, first and second Golden, and third the recent importation—viz., Buffs, or more properly Buff-laced; the hen a grand one, but the cock failing in crest. The cup for this section was awarded to a pen of Black *Hamburghs*, the cock, perhaps, about the best we have yet seen; second also a grand pen of that breed; and third *La Flèche*. There was one class for chickens; first was a fine well-grown set of Light *Brahmas*; second Dark *Brahmas*. *Bantams* were the largest classes of all and mostly in good feather, the cup being awarded to a small pair of Black Reds. In the Variety class Blacks were very good and in the best of feather.

Geese and *Ducks* were large and good, but mostly out of feather with the exception of the *Bahamas* and *Chilian Teal* in the Variety class.

Pigeons through some unfortunate mistake were in pairs, and the entry was in consequence rather small, but there were some good specimens in all classes.

POULTRY.—GAME.—Black-breasted.—Cock.—1, C. W. Brierley. 2, T. Woods. 3, Dr. Cameron. *Hen.*—1, Dr. Cameron. 2, Sales & Bentley. 3, T. Baker. *Brown Red.—Cock.*—Cup and 1, C. W. Brierley. 2, W. Firth. 3, H. E. Martin. *Hen.*—1 and 2, C. W. Brierley. 3, Sales & Bentley. *Duckwing.—Cock.*—1, H. E. Martin. 2, J. A. & H. H. Staveley. 3, Sales & Bentley. *Hen.*—1, Sales & Bentley. 2, C. W. Brierley. 3, H. E. Martin. *Pile or White.—Cock.*—1, J. F. Walton. 2, R. Walker. 3, J. E. Crofts. *Hen.*—1, C. W. Brierley. 2, J. E. Crofts. 3, J. F. Walton. **DORKINGS.—Silver-Grey.**—1 and 2, W. Roe. 3, H. Beldon. *Any variety.*—1 and 2, B. Smith. 3, J. Chester. **SPANISH.**—1, J. Rawnsley. 2, H. Beldon. 3, J. Bowes, jun. **COCHINS.**—1, H. Beldon. 2, W. Mitchell. 3, R. P. Percival. **BRAHMAS.—Light.**—1, G. B. C. Breeze. 2, F. Holt. 3, A. Bigg. *Dark.*—1, J. F. Smith. 2 and 3, W. Schofield. **HAMBURGHS.—Silver-spangled or Pencilled.**—1, J. Rawnsley. 2 and 3, H. Beldon. *Golden-spangled or Pencilled.*—1, H. Beldon. 2 and 3, J. Rawnsley. **POLANDS.**—1 and 3, H. Beldon. 2, R. Newbitt. **ANY OTHER VARIETY.—Cup** and 1, H. Beldon. 2, J. F. Walton. 3, J. Rawnsley. **ANY VARIETY.—Chickens.**—1, H. W. & H. King. 2, B. Smith. **GUINEA FOWLS.**—1, F. Clater. 2, J. Rawnsley. **DUCKS.—Aylesbury.**—1 and 2, E. Snell. 3, W. Stonehouse. *Rouen.*—1, E. Snell. 2, W. Bygott, jun. *Any other variety.*—1 and 2, A. & W. H. Silvester. 3, W. Bygott, jun. **TURKEYS.**—1, Mrs. Baty. **GESE.**—1, J. F. Crowther. 2, G. Pounder. 3, E. Snell. **SELLING CLASS.**—1, J. H. Newbitt. 2, A. & W. H. Silvester. 3, J. Jackson. **BANTAMS.—Black-breasted and other Reds.—Cup** and 1, E. Walton. 2, A. S. Sugden. 3, W. Roe. *Game.*—1, E. Walton. 2, A. S. Sugden. 3, A. E. Ward. *Any other variety except Game.*—1, H. W. & H. King. 2, J. F. Crowther. 3, A. & W. H. Silvester. **PIGEONS.—CARRIERS.**—1, J. E. Crofts. **JACOBINS.**—1, J. E. Crofts. 2, J. Darby. **ANTWERPS.**—1, J. Shackleton. 2, W. Hough. **ANY OTHER VARIETY.**—1 and Extra 3, J. E. Crofts. 2, J. Thresh. **FANTAILS.**—1, J. F. Loversidge. 2, J. Darby. **SELLING CLASS.**—1, A. Travis. 2, J. E. Crofts.

JUDGE.—Mr. E. Hutton.

RABBIT REARING.

As soon as the young are five or six weeks old the question of separating them from the doe should be considered. Many fanciers young and inexperienced buy a couple of Rabbits for breeding, and

then when the litter has overpowered the mother and it has become absolutely necessary to provide some fresh home for the new comers, the question is hurriedly considered, and a box or tub, alike unsuitable, is selected; hence many die from being trampled on or from dirt and suffocation.

As to the age at which the young Rabbits may with safety be removed much depends upon the constitution and stamp of the breed. We may remark that five weeks is the lowest and eight the highest age at which the young should be removed. If taken too soon they will not have a chance of being strong, but if left too long the mother suffers considerably. Very often she turns upon the young, like a Swan upon its cygnets, when they arrive at what she considers a sufficiently advanced age to exist without a continuance of her maternal care.

The hutch for young Rabbits should be roomy and large, special attention being paid to ventilation. For a couple of litters, say ten or twelve young ones, a hutch 4 feet long, 2 feet deep, and 15 inches high, is requisite. The wood forming the sides, back, top, and bottom should be at least three-quarters of an inch in thickness, and should be of a hard impenetrable nature. Deal will do very well if well seasoned. The joints should be carefully dove-tailed, and care taken to avoid anything likely to cause a draught. At the back of the bottom piece cut a slab about an inch wide from the whole length of the hutch. Through this a considerable quantity of waste will escape, and the Rabbits' play will tend to drive the refuse towards the back if the hutch be slightly sloped. To accomplish this the hutch should be placed on a sloped bench, or the front should be raised by means of a board or bar placed along the whole length. In either case the front should be not more than 3 inches higher than the back. If the hutch is 2 feet deep this elevation will do very well, but if less the propping should be diminished. If the slope is too great the little inmates will be unable to obtain a footing. Never let a hutch slope from the front. The great objection to this is that the Rabbits naturally look in the direction of the light, and by standing constantly on a slope the blood rushes to their heads, causing several complaints. No sleeping place is required. In place of it a piece of wood the length of the depth of the hutch and about 4 inches high should be fixed about 15 inches from one end. This will keep the straw or hay in one place and prevent its being trampled on. A small rack for green stuff may be useful. It has a great drawback, because the young ones sometimes jump up against it in play and damage themselves severely. The front should be made to open about half the size of the whole, the door being nearly in the centre. A hoe can then easily be inserted to clean out the whole. If the hutch is kept indoors the whole of the front may with safety be left open, but if any doubt is entertained as to the temperature the part enclosed for the bedding may be boarded up.

The young ones should all be about the same age or the younger will suffer. As regards food, the directions given in a previous paper on feeding may be taken as a good guide with a few slight variations. The oats should not be given whole, as they are hard for the young teeth; they should therefore be either bruised or soaked, and a little meal is good. Bread is good occasionally; if very stale it may be given dry, but if not it should be soaked and then dried as nearly as possible. Pieces of carrots and turnips may be thrown into them. In green stuffs select those kinds not too damp, and let all the food of this description be carefully dried before being given. Cabbage and lettuces are both too succulent for young Rabbits, and should be avoided. Drier kinds, such as young corn, grass, and cabbage and lettuce stalks, will be better. If the weather is very hot this rule must not be very strictly attended to, and a little lettuce may be given; cabbages may also be given, but not too freely, except when well dried.

Lop Rabbits are generally kept with their mothers longer than usual. Sometimes when the numbers have been reduced greatly by aid of nurse does the remnant are kept with their mothers till they are eight or ten weeks old. This is certainly a great strain on the parent; but when the litters only number one or two does not do much harm. Dutch young ones are often removed much earlier because they are not wished to grow large, and there are often so many that were they left more than five or six weeks they would tear the mother down very much. In the very large species the young may be removed at six weeks. In the other varieties from six to eight weeks, according to the number and strength of the litter, may be mentioned as the best age for removal.—GETA.

THE RAINFALL IN HAMPSHIRE.

THE heavy rainfall which we have had during the month of May, amounting in this locality to upwards of 5 inches, has induced me to look back on my previous records and to note several somewhat singular circumstances that it may perhaps be interesting to point out. These 5 inches are not only more than double the usual average of the month, but the heaviest fall we have had in this month for more than thirty years. Although during this period there has been a quantity of timber removed, and the district has become more open, yet the rainfall, instead of being less has been more, contrary to the usual

opinion. Thus, during the first ten of these thirty years, the average monthly rainfall was 2.719, or nearly 27.2 inches per annum. During the succeeding ten years it was 28.6 for the year, or 2.86 for the monthly falls; whilst during the last ten years the annual fall has been 32.33, or monthly average of 3.32 inches; thus each decade has become wetter than the previous one, which is altogether opposed to the doctrine that as the country is cleared it becomes drier. The driest year by far during the last twenty years was the first—viz., 1858, the next 1870, then 1864 and 1873; whilst the wettest during this period was 1872, followed by 1877, 1868, and 1875. This accounts for the probable fact that the natural yield of wheat has diminished during each decade, and has needed as well as received the artificial aid that is now frequently applied. The annual fall of rain from January to December inclusive, as usually recorded, bears but a moderate relation to the growth and yield of wheat; for the agricultural year actually begins and ends with September, and the fall of rain in the last three months of the year forms a very important factor in the yield of wheat in the succeeding year. Thus, for example, in the year 1872, reckoning from January to December, we had a fall of 43.97, but from the preceding October to the end of September it was only 34.45. In 1877 the usual reckoning gave 35.77, whilst to the end of September it amounted in the preceding twelve months to 31.10. The driest month on the average for twenty years has been April, and then May and February; the wettest January, and next October and September. In the previous ten years February was the driest and October the wettest.—W. C. SPOONER, *Eling, Southampton.*

VARIETIES.

WE regret to hear that serious irregularities occurred at the public auction of poultry at the end of the Paris Show. English birds were put up and knocked down for a few francs on which their owners wished reserved prices to be placed. Some of Mrs. Christy's Buff Cochins, which we so much admired, were thrown away in this manner.

THE poultry Show of the Staffordshire Agricultural Society will be held at Leek on September 18th and 19th, and entries can be made with the Secretary at Newcastle, Staffordshire, up to the 31st of August, from whom, on application, prize lists and certificates of entry can be obtained. The birds, with the exception of the Turkeys, Geese, Ducks, and fowls entered in the selling classes, must all be chickens of this year. First and second prizes of £2 and £1, and in some classes three prizes, are offered, with nine silver cups value £3 3s. each, for the best bird or birds entered in the classes for Game, Spanish, Dorkings, Cochins, Brahmas, Hamburgs, Houdans, Crève-Cœur, Polish, Leghorns, Turkeys, Geese, Ducks, and Bantams. The poultry will be under cover, and carefully attended to and fed.

THE *Country Brewers' Gazette* observes that although there are only about 72,000 acres of hop land in the United Kingdom, the capital involved in its cultivation amounts nearly to half a million of money, and the annual value of the produce, taking an average of thirty years past, has been quite £3,000,000. Numbers of labourers find remunerative employment in the hop-producing districts all the year round, and swarms of emigrants flock down from the smoke of London and other large towns for the picking season to gain health and money. It is calculated that at least 90,000 immigrants come into Kent and Sussex every year for the hopping; and many persons migrate from the towns in the Black Country to the pleasant hop yards of Worcestershire and Herefordshire. Moreover, hops have a special quarter allotted to them in London, in the Borough, where the hop trade has been carried on from time immemorial. The numerous stately hop warehouses, the streets devoted to the offices of hop merchants and factors, the hum and bustle of business in the season, all indicate that the cultivation of hops is a most important industry.

APIARY JOTTINGS.

WE are now passed midsummer, and can pretty well forecast the year's prospects. It is now glorious weather in Somersetshire, and hay-making is going on all round with splendid success. It is only just really begun, the season being after all decidedly backward, so that there will be opportunity for the white clover in many fields to yield its full harvest for our bees. Nor am I without hope that when it reaches its prime there will be a fair lot of honey gathered. At present (St. John's day) not a cell of honey has been visibly sealed up since the middle of May in any of my hives, nor is any to be seen beyond a rare glistening in cells few and far between. Hardly any comb is making either in half-filled hives or in supers, save where swarms have been coated by feeding or have been unusually active. Honeydews have been abundant on many trees, which my bees have resorted to early and late, but I suspect only to keep life agoing. None of it has been stored. I note this dew on oak, lime, beach, filbert, and cherry trees.

My first swarm issued on the 13th out of an improved Abbott-

Woodbury. It was only an average swarm. Pitching on an espalier it was easily hived in the large Woodbury-Phillip's hive, with capacity for lateral extension, now to be tried. I had given them a lot of sectional supers in May, which had some nice comb of last year's make in them. Of course in such a season as this, although crammed with bees for weeks, not a particle of honey was found in them, nor had any addition been made to the comb. Bees began piping immediately, and on the 17th a second swarm issued. This was nearly as large as the former and hived in a Woodbury of my own make, with good comb adjusted to alternate bars. The parent hive was examined at the same time, every bar taken out and inspected, and every royal cell extracted save two or three recently sealed-up, which were left for precaution's sake, although a fine young queen was observed. Ten royal cells were destroyed. All was carefully readjusted, the combs being more conveniently re-arranged. Not a pound of honey was visible in the large hive, but an immense quantity of brood all through the combs was noted with satisfaction, giving promise of future success.

On the 15th a prime swarm, not large, issued from a hive in my tool house, where is a large window looking into the garden facing S.E., where is accommodation for six stocks. This swarm settled on a bush apple tree 4 feet from the ground. A tap brought them down *en masse*, and in five minutes they had possession of an Abbott-Woodbury, and were shifted off immediately to their permanent stand in the open garden.

From this hive, too, issued a second swarm only three days later. Evidently in both cases the bees had been delayed in their plans for swarming by the bad weather so long continued. Piping was observed immediately after the issue of the first swarm. I hived it in a box containing a good lot of empty comb and put it in place of the parent hive. The swarm was in the act of returning, and its queen (offspring of a fine Italian queen imported last October) was caught on the alighting board, and of course given to the cast. So many royal cells were found in the parent hive on examination, some open and many sealed, that it is probable there were other young queens flying about who may have been with this swarm and caused uncertainty in their movements. Ten of the sealed royal cells were cut out and destroyed, also several young queens found about the combs of the parent hive.

The presence of so many royal Italian princesses tempted me to substitute one of them for the only degenerate queen in my apiary. Accordingly the same day we drove the hive of which she was the mother, and having secured and removed her the bees were restored to their hive, over which was set a small super containing three of the royal cells still unsealed; and to make assurance doubly sure I was also able to provide them with a fully grown princess.

All these various operations have succeeded well, and the bees in all hives are working away vigorously. Still I cannot now look for any large quantity of honey with all these divided populations. One strong hive and two weaker ones now recovering from the effects of the tedious spring are all that are left to me unswarmed. It remains to be seen what they will do. Hitherto there has been nothing but disappointment this year.

I may mention as one of the curiosities of the year's experience that in one of the royal cells which we opened were found two young fully fledged but quite dead common bees. They were sealed-up in the usual way. Has anything of this sort been observed before?

Also I may record that in an apiary not far off a hive swarmed and straightway entered an adjoining hive. Full as were the bellies of the swarming bees, they were far from kindly welcomed by their neighbours. A fierce pitched battle resulted, in which many hundreds, perhaps thousands, of the combatants were killed.—B. & W.

OUR LETTER BOX.

BOOKS (*E. Dillistone*).—You must apply to the publishers. (*P. H. G.*).—Consult our "Poultry-Keepers' Manual."

BIRD LOSING ITS FEATHERS (*F. F. Foster*).—At this time of year when the plumage is getting ragged, Spanish hens seem to be beset with the desire to eat every feather that can be got from the body of the cock. It is fair, however, to say it is only those that are in confinement that do this. The treatment you mention is very bad. If the bird in question is at liberty, and has not lost his plumage by the act of the hen, it has come about by fever of the skin. This should be treated with cooling food and with emollients. Rub the naked parts of his body with citron ointment varied with salad or castor oil. Feed on ground oats if you have them, slaked with milk or water, and let the bird have plenty of lettuce. If gone to seed so much the better. We advise you to separate him from the hen. If, however, you think it necessary he should run with her, turn him down at times for a short time. Spanish chickens are naturally very naked in their early youth. We have often had them with only tail and wing feathers, the rest of the body naked, but perfectly healthy. Give the chickens bread and milk, ground oats slaked with milk, and if they are not on grass let them have a large sod with plenty of earth given to them every day. If you cannot get ground oats use barleymeal.

BEES CLUSTERING (*Hankelow*).—You say your bees are clustering outside their hive, even to the extent of filling up the corner of their stand, and you want to know the cause and remedy of this. Some hives that have prepared for swarming by setting queens and have been prevented by weather

from swarming at the time become somewhat morbid and sluggish afterwards. The bees of such hives cluster for weeks, it may be months, before they set queens a second time, and thus prepare for sending off swarms. We have known bees hang outside their hives till the combs inside were filled with honey. Some hives severely affected and afflicted with foul brood are covered with bees in hot weather. The stench of the foul brood drives them outside their hives, and there they commence building fresh combs. Artificial swarming, so easily performed, is the best remedy for the clustering of stocks that will not swarm. Bees should not be permitted to waste their time by clustering outside. After the swarming season is past eking, nading, and supering are resorted to in order to let the bees have playroom enough inside. There is no cure for foul brood. The sooner bees are removed from hives affected with this terrible disease the better both for them and their owners.

TWO SWARMS UNITING (*D.*).—Swarms that issue from separate hives in the same garden at the same time generally unite and alight together in one cluster on a bush or tree, and it is not uncommon for a single swarm to alight on two separate bushes. When this happens there has been a misunderstanding or divided opinion among the bees before they left the hive. Part of the swarm goes to one place, and part to the other. Those without the queen go to the rest. Probably this was the case with yours, though you hived them separately. You may remove the super now from the mother hive.

WINE-MAKING (*J. H. Walford*).—Cooley's "Encyclopædia of Practical Receipts."

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.					Rain.
1878. June and July.	Baromet. at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		
		Dry.	Wet.			Max.	Min.	In sun.	On grass	
We. 26	Inches.	deg.	deg.	N.E.	deg.	deg.	deg.	deg.	deg.	In.
Th. 27	30.189	76.6	68.7	N.E.	62.9	86.5	57.6	124.2	53.2	—
Fri. 28	30.109	77.9	69.6	S.E.	63.7	86.3	60.6	129.6	56.0	—
Sat. 29	29.957	76.8	68.0	S.E.	64.9	82.8	61.5	127.5	58.0	—
Sun. 30	29.857	74.2	67.1	E.	65.4	81.2	57.4	128.1	55.2	—
Mo. 1	29.787	62.5	60.2	N.	65.3	74.2	55.0	118.0	52.6	1.130
Tu. 2	29.860	63.2	59.4	N.	65.4	72.3	52.1	120.7	50.4	0.050
		54.6	52.3	N.N.E.	62.7	66.0	52.2	107.2	54.2	—
Means	29.955	69.4	63.6		64.0	78.5	56.6	122.2	54.2	1.180

REMARKS.

26th.—Fine, hot, sunny morning, rather cloudy in afternoon, distant thunder in W. from 4.51 to 5.30 P.M.; clear fine evening.

27th.—Bright, hot, sunny day, rather more wind than on 26th; very fine night.

28th.—Another bright sunny day, dusty; fine, clear, starlight night.

29th.—The last of the hot days, and not so warm as its predecessors.

30th.—Dull close morning, but 12° cooler than on the 29th; dark storm clouds in S.E. from 10 A.M., thunder first heard at 11.20 A.M., and became heavy about 1.10 P.M. Measurable rain began at 0.43 P.M., and in the first quarter of an hour 0.31 inch fell; rain continued steadily until 7 P.M., when 1.13 inch had fallen. Although far inferior to the storm of the 23rd, even this was a heavy storm.

1st.—Fair all day, but at times very dull and heavy, dark very early in the evening.

2nd.—Dull morning with spots of rain, fair afternoon and evening; very cool.

Four hot days, a thunderstorm, and one very cool day.—G. J. SYMONS.

COVENT GARDEN MARKET.—JULY 3.

OUR Market has been generally active during the past week, and clearances have been readily made. Cherries do not show to best advantage this season, and good samples rule high, while Raspberries bid fair to be a good crop. All household fruits are in good demand.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½	sieve	0	0to 0	Melons.....	each	4	0to 10	0
Apricots.....	dozen	1	0	3	Nectarines....	dozen	4	0	12
Cherries.....	½	lb	0	6	Oranges.....	£	100	3	0
Chestnuts.....	bushel	10	0	20	Peaches.....	dozen	4	0	18
Currants.....	½	sieve	1	6	Pears, Kitchen..	dozen	0	0	0
Black.....	½	sieve	0	0	Pears, dessert...	dozen	0	0	0
Figs.....	dozen	6	0	12	Pine Apples....	½	lb	3	0
Filberts.....	½	lb	0	0	Piums.....	½	sieve	0	0
Cobs.....	½	lb	0	0	Raspberries....	½	lb	0	0
Gooseberries..	quart	0	6	0	Strawberries..	½	lb	0	6
Grapes, hothouse	½	lb	2	0	Walnuts.....	bushel	5	0	8
Lemons.....	£	100	6	0	ditto.....	£	100	0	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes....	dozen	2	0to 4	0	Mushrooms....	pottle	1	0to 2	0
Asparagus....	bundle	2	0	6	Mustard & Cress	punnet	0	2	0
Beans, Kidney forced	£	100	0	6	Onions.....	bushel	2	6	3
Beet, Red.....	dozen	1	6	0	Pickling.....	quart	0	4	0
Broccoli.....	bundle	0	9	1	Parsley..... doz.	bunches	2	0	0
Brussels Sprouts	½	sieve	0	0	Parsnips.....	dozen	0	0	0
Cabbage.....	dozen	1	0	2	Peas.....	quart	0	9	1
Carrots.....	bunch	0	6	0	Potatoes.....	bushel	3	6	7
Capsicums....	£	100	1	6	Kidney.....	bushel	5	0	7
Cauliflowers...	dozen	3	0	6	Radishes.... doz.	bunches	1	0	1
Celery.....	bundle	1	6	2	Rhubarb.....	bundle	0	6	0
Coleworts.... doz.	bunches	2	0	4	Salsify.....	dozen	0	9	1
Cucumbers....	each	0	4	1	Scorzoner.....	bundle	1	0	0
Endive.....	dozen	1	0	2	Seakale.....	basket	0	0	0
Fennel.....	bunch	0	3	0	Shallots.....	½	lb	0	3
Garlic.....	½	lb	0	6	Spinach.....	bushel	2	6	1
Herbs.....	bunch	0	2	0	Turnips.....	bunch	0	6	0
Leeks.....	bunch	0	2	0	Veg. Marrows..	each	0	0	0
Lettuce.....	dozen	1	0	2					

WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 11—17, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.	Day of Year.	
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.	Days.	m. s.			
11	TH	Preston Show—Kilsby Show.	74.8		2.8	3	58	8	13	6	25	0	23	11		12	192	
12	F	Preston Show continues.	75.6	50.7	63.1	3	59	8	12	7	22	1	12	12		20	193	
13	S	Preston Show closes.	74.0	61.4	62.7	4	0	8	11	8	4	2	15	13		27	194	
14	SUN	45 th DAY AFTER TRINITY.	76.4	61.1	63.8	4	1	8	10	8	34	3	28	14		34	195	
15	M	ST. SIMON'S.	76.2	60.3	63.2	4	2	8	9	8	55	4	46	5	5	41	196	
16	TU	Leek Rose Show.	75.7	49.7	62.7	4	3	8	8	9	11	6	2	16		5	46	197
17	W	Tonbridge, Blackpool, Oundle, and Spalding Shows.	75.9	61.5	63.7	4	4	8	7	9	24	7	16	17		5	52	198

From observations taken near London during forty-three years, the average day temperature of the week is 74.1°; and its night temperature 60.0°.

HORTICULTURAL EXHIBITIONS AND THEIR INFLUENCES.

HORTICULTURAL exhibitions have done much for the art they are intended to promote, both in this and other countries. Local shows and special shows have given an impetus to cultivation in the districts where such shows have been established, and have brought to greater perfection particular flowers that the special societies have taken under their particular patronage. Exhibitions of greater scope and magnitude have similarly in a broader and more general manner stimulated and encouraged high-class cultivation, as well as having expanded the trade in all that pertains to horticultural pursuits.

It cannot be doubted that the bringing together for purposes of comparison the best produce of our gardens has had a most beneficial effect. Some cultivators by long practice, great perseverance, and close industry have excelled in some particular branch of their profession, and it is only meet that they should reap something more than a mere private approval of their success: they have a just claim to a reward of a more public and tangible nature. Such rewards are provided by horticultural societies and are awarded at the several exhibitions that are held in different parts of the country.

The public recognition thus officially recorded of prominent successes achieved by leading cultivators has had an important influence in raising the standard of horticultural practice throughout the country, has created a spirit of commendable emulation amongst cultivators large and small, and has raised British gardeners to the high and honourable position they now occupy as skilled craftsmen in the art which they so well adorn. In no country in the world is gardening conducted so thoroughly and well as in our own. Some nations may excel in some particular department of floral decorative art; but for solid excellence in the cultivation of flowering plants, for high achievements in the production of fruit, and for general success in vegetable growing, Great Britain is admittedly at the head of all the nations of the globe. Pre-eminent also is this country in the magnitude and richness of its nurseries and the admirable manner in which they are conducted. The seed establishments, too, are with very few exceptions similarly unrivalled; and equally prominent are the various manufactories and foundries wherein are fabricated the structures, heating apparatus, implements, machinery, and manures requisite for the maintenance of horticulture in the commanding position it now occupies.

This position, as before observed, is in a great measure the result of the powerful influence exerted by horticultural societies and their exhibitions—aided, as will be readily admitted, by their natural ally the horticultural press. Thousands of cultivators who have not had opportunities for visiting the great tournaments of skill have yet been made familiar with their nature, and have thereby been imbued with an ambition to be participators of the rewards

offered for skilful work. Thus are gardeners made—namely, by attentive reading, close observation, and unremitting work.

Honours won by the successful exhibitors even at local shows are prized, and rightly so; still more cherished are the rewards won at metropolitan exhibitions; but the most coveted of all honours are those bestowed by the Royal Horticultural Society—the natural and national representative of horticulture in this country. Had not the old Society had the warm sympathy of the leading horticulturists, were not confidence reposed in its management, and were not its administrators trusted as loyal to the objects which the Society was designed to promote, the much-criticised—sometimes abused and sometimes commended—"R. H. S." would not have surmounted so well as it has done the many difficulties it has had to encounter, and would not now have been in a position to expand its influence and extend its usefulness both at its head-quarters and in the provinces.

Catering, as it does, for all classes by giving official encouragement in domestic floriculture to "the million" in the metropolis; distributing its medals over wide districts, and now and again instituting great exhibitions in the populous centres of the provinces, it is doing a large, comprehensive, and important work—work fraught with unalloyed pleasure and benefit to the affluent; and benefit also, of an educational and substantial kind, to the industrial masses of the community, as well as giving an impetus to the great industry of which it is the exponent.

The provincial exhibitions of the Royal Horticultural Society have always been popular and, as great horticultural displays, have been successful. At Bury St. Edmunds, Leicester, Manchester, Oxford, Nottingham, Birmingham, and Bath horticulture has been represented in a truly national manner, and the good influences resulting from such gatherings of the cream of garden products, their producers and patrons, have a deep impress on the national mind which cannot fail being of great public advantage.

Preston is now for the time being the great centre of horticulture. The Show is arranged in all its magnitude, and there is yet time for those who have not yet seen it to make an effort for visiting the great Show of the season, and deriving instruction from the many splendid examples of culture there so attractively displayed. Those, however, who cannot see the Show can do the next best thing—read about it, and we commend the report to their notice.

GRAPES WITHOUT FIRE HEAT.

DOUBTLESS Mr. David Thomson is quite right by suggesting that in a great extent of the "north countries" it is useless attempting the cultivation of Grapes without the aid of fire heat. It is very important also, as pointed out by that experienced cultivator and accomplished writer, that unqualified expressions may possibly result in disappointment. But while it is necessary to remember that Vines cannot be depended on in the north to ripen without fire heat, it is equally well that the fact be recognised that they will ripen admirably over a considerably greater extent of

country in the southern, eastern, and midland counties. How far north they will generally ripen under glass, but without the aid of fire heat, I am unable to state, but I know I have gathered Grapes from open (south) walls as far north as the south of Yorkshire, and have cut fruit from Vines under glass where no fire heat was employed, in the same locality, of really excellent quality and quite fit for a nobleman's table. There are no doubt thousands of gardens in this country where a valuable supply of home-grown Grapes might be produced in plain inexpensive glazed structures without the expenditure of a penny a year in fuel. Yet while that is the fact, it is generally advisable when erecting a vinery for making some provision for keeping the frost out of it in winter, not for the sake of the Vines, which the frost will not then injure, but because the house can be utilised by affording protection for tender plants which are usually requisite for beautifying gardens in summer. The number of small vineries is much greater than formerly in the vicinity of towns, and it is to be hoped they will continue to increase; for ripe Grapes constitute a wholesome and delicious luxury in health, while in sickness they are simply invaluable. Wherever Apricots and Peaches will ripen on the walls in the same district Grapes will ripen under glass without the aid of fire heat.—NORTH LINCOLN.

FUCHSIAS FOR AMATEURS—SOIL FOR POTTING.

No. 1.

FUCHSIAS are amateurs' plants. They are at home on the window sill, in the garden, in the living room, and in the greenhouse. Their fresh foliage is neat, and their flowers are characterised by extreme elegance. "I am forming a collection," writes an amateur, "and should be glad, as I doubt not would many other amateurs, to see some instructions in the Journal for growing the plants well." It would be comparatively easy to impart information on the culture of Fuchsias, but the correspondent alluded to has coupled his request with a statement that renders the matter somewhat difficult. It is to the effect that he has no suitable soil—no turfy loam, leaf soil, or anything of that kind that is so frequently recommended.

As to the matter of soil, it may be as well to state at the outset that the best, most satisfactory, and in the end the most economical plan to adopt is to purchase a bushel or what may be required of some local nurseryman. If a fancier purchases poultry or pigeons, birds, cats, or dogs, he purchases also food for their sustenance. If the pets are worth having the food is worth purchasing. Does not the same rule apply in the case of Fuchsias and other plants? Those who consider the matter well will, I think, reply in the affirmative.

In country districts no real difficulty need occur in the matter of soil, for those who really value softwooded plants and are earnest in their efforts to grow them healthily will always manage to obtain sufficient wayside parings and collect some leaves, a little horse dung and soot, and these mixed together and left in a heap for a year, less or more according to circumstances, will form a compost in which such plants as Fuchsias, Geraniums, &c., will grow in a highly satisfactory manner, other points of culture being correct. But the case is different when would-be cultivators of flowers are dwellers in towns or cities or their immediate suburbs. There are no roadside parings, and possibly no leaves or waste manure of any kind; and in that case they must treat their plants as they would their pet birds, and purchase for them the requisite food. Plants, however, it may be as well to remember, do not require freshly purchased food every day or week, or even month, so that the matter of purchasing soil is not so serious as at first sight it might appear to be.

Amateurs and suburban residents, it may perhaps be opportune to state, are not the only persons who endure great inconvenience, and even incur considerable loss, by the non-purchasing of suitable soil for their plants. Gentlemen—country gentlemen—can have little idea of the importance of affording their gardeners soil suited to the special requirements of particular kinds of plants, or they would be as ready to permit a little soil being purchased as they are to purchase the plants. For the sake of a pound expended in soil many a £5 note has been lost by the premature death of plants, which have perished by the want of a suitable medium in which to sustain them in health. This applies to such plants as Camellias, Azaleas, Heaths, and New Holland plants, or plants generally which require sound peat or pure light turfy loam destitute of lime

to preserve them in a satisfactory and improving condition; yet in heavy clay or limestone districts soil of the nature required for such plants cannot be found. As a matter of fact I have traversed hundreds of acres in a vain search for a load of soil that I knew was essential to the well-being of the plants that had been purchased and for which it was required. The cost of the time so wasted was often greater than would the cost of suitable soil have been if it had been purchased. I mention this with the twofold object of informing suburban amateurs that they have "brethren in distress" amongst professional gardeners in country districts, and also of intimating to country gentlemen who will purchase plants, but who are averse to buying soil, that they ought not to expect their gardeners to make bricks without straw.

Hitherto I have paid much more attention to the second division of my text than the first; but I have good reason for it. The friends at head quarters—for friends they are both to amateurs and gardeners—like experienced cultivators, invited me, when they forwarded to me the amateur's letter, to lay special stress on the question of soil, knowing it was the more important question of the two. And so it is. That is the reason that I have given it prominence.

Yet on the other hand I must say, as a somewhat old cultivator, that soil is not everything in the culture of either Fuchsias or any other plants. Much, of course, depends on the nature of the compost, its texture and components; but of not less importance is the state in which it is used and the manner of using it. I do not hesitate saying that a good gardener and skilled cultivator will achieve greater results with inferior soil than will a bad cultivator with soil of the most perfect character imaginable for the purpose for which it is intended.

In the first place, soil when it is employed must not be so dry as to crumble when grasped tightly, nor yet be so moist as to adhere to the hand after the manner of putty or paste. The mean between these two extremes is not only the best standard to attain, but it is imperative that it be adopted. In the next place the soil must be kept in a sweet yet healthily moist state, and this must be effected by judicious applications of water coupled with efficient drainage. It is very easy to place an inch or two of crocks, such as broken pots or charcoal, into the bottom of a flower pot, and then as easy to throw in soil on the crocks; but that is just what ought not to be done. The drainage must be kept clean and clear by being covered with a layer of turf, moss, manure, or leaves before the soil is placed in the pots. That, too, is imperative. It is not, however, always adopted by amateurs, nor even by some who call themselves gardeners. Another point wherein many amateurs err, and not a few gardeners, is in the habit of watering plants immediately after they have been potted. As soon as a plant has been placed in fresh soil and in a fresh pot it is considered proper to "give it a good soaking." Instead of that practice being proper it is very improper. A plant should never be potted when the old soil in which it is growing is at all dry, nor when the new soil in which it is proposed to place it is similarly devoid of moisture, neither should it ever be watered immediately after the potting has been done.

Those are a few of the principles of culture that must never be lost sight of in the cultivation of Fuchsias, or indeed of any plants, but I have written enough for one paper and will resume the subject on a future occasion.—A NORTHERN GARDENER.

THE SCOTTISH HORTICULTURAL ASSOCIATION.—The monthly meeting of the Scottish Horticultural Association was held on Tuesday, the 2nd inst. at 5, St. Andrew Square. Mr. Dunn, Dalkeith Palace Gardens, President, in the chair. Mr. A. D. Mackenzie read a valuable paper on the "Heating of Horticultural Buildings." He alluded to the various methods which had been tried for heating such buildings, but the only two effective methods were by flues or by the circulation of hot water in pipes. The old flues had been almost entirely superseded, the cost of repairing, their expense, and other disadvantages having contributed to this result. But the system of heating by hot-water pipes had spread to such an extent that it now formed an important item in the industry of the country. He described two methods of heating by water—the one by high pressure with small malleable iron pipes, and the other by low pressure with cast-iron pipes and boilers. Mr. Mackenzie then gave his experience of the various boilers which were used, giving preference to the saddle boiler, and closed with a few hints in reference to the working of the whole system. All the members who took part in the discussion agreed that the saddle boiler was the best in use. Mr. James Grieve read a paper on "Campanulas," in which he enumerated the different kinds and the places from

which they had been first brought to this country, and gave a general idea of the mode of cultivation. The following were exhibited:—Rare specimens of the Iris, *Tropæolum polyphyllum* and *Alströméria chilensis* by Mr. L. Dow; twenty-four new seedling fancy Fancies by Downie & Laird; beautiful flowers of the *Hoya carnosá* by Mr. R. Robertson; and large spikes of Stocks by Mr. W. Black.

SINGULAR BEECH TREE.

THE engraving is from a rough sketch of a Beech tree that grows in the vicarage garden at Sedgley near Dudley. The

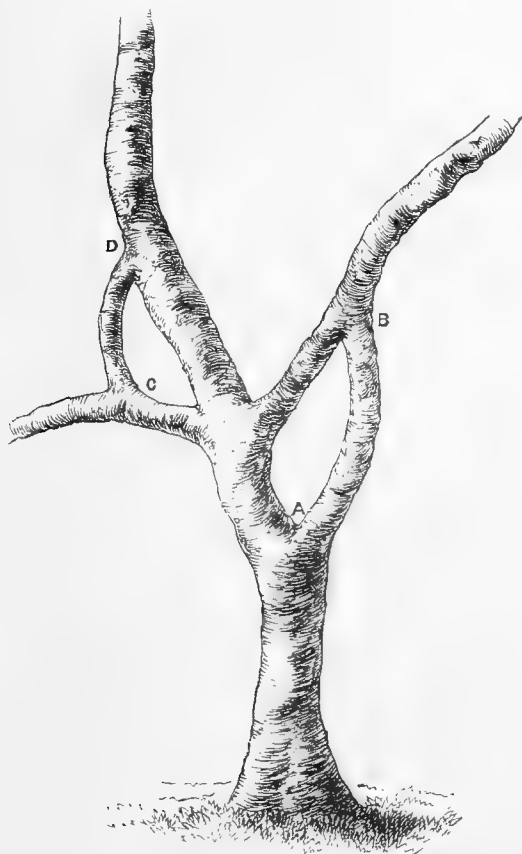


Fig. 3.—Singular Beech Tree.

peculiarity consists in this, that the branch denoted as A grows into the branch B, and has become from that point one branch; also the branch C has grown in a like manner into the stem of the tree marked D in such a manner that at first sight it was not clear which of the two places, C or D, the branch had first started from.—HENRY COOPER.

THE BATH AND WEST OF ENGLAND SHOW.

THE floral decorations in connection with the Bath and West of England Show are, I think, deserving of a little comment. The Show is generally described in glowing colours by reporters, and its arrangement is spoken of as if the height of perfection were attained. As the present system of exhibiting has been going on for several years this may not be an inappropriate time for inquiry into its usefulness. This department of course is considered as an adjunct to the agricultural department. When produce of all kinds are brought together in sharp competition the consequence is that the very best is brought from all parts, and a lively interest and some excitement is created among all classes connected with agricultural matters. Why should it not be so in the horticultural department? To most it would seem that is the very thing that is wanted, and if a liberal schedule were issued the Show might be the best flower show of the season. The Committee will do well to see into this matter, and not only endeavour to make

it an exhibition of admiration but also remunerative.—AN OLD EXHIBITOR.

ROYAL BOTANIC SOCIETY.

JULY 10TH.

THIS Society acted wisely in dividing their last summer show into two parts, and offering prizes for cut flowers and fruit a month later than it has been their usual custom to do. The classes for both subjects were well contested, and the quality of the Roses exhibited was far superior to anything we have witnessed this season. Messrs. Paul & Son, Cheshunt, received the highest honours for seventy-two varieties, single trusses; Messrs. Cranston & Mayos, Hereford, were placed second; and Mr. Keynes third. For forty-eight, three trusses of each variety, Messrs. Cranston & Mayos were in splendid form and were awarded the first prize, Messrs. Paul & Son the second, and Mr. Keynes the third. In the class for twenty-four, three trusses of each, Messrs. Paul & Son, Cranston & Mayos, and Mr. Turner were first, second, and third respectively. Mr. Turner was first for twenty-four single blooms, and Messrs. Paul & Son also won five other first prizes for admirable collections. There was only one exhibitor in the amateurs' class—Mr. Davies, The Square, Wilton, Wilts, and he was deservedly awarded the first prize for a collection of twenty-four varieties, three trusses of each.

FRUIT was also well exhibited. Twenty-one classes were provided for in the schedule. The first prize for a collection of nine sorts was awarded to Mr. Miles, gardener to Lord Carington, Wycombe Abbey; and for six varieties to Mr. C. Ross, gardener to C. Eyre, Esq., Welford Park, Newbury. Mr. T. Coomber, gardener to J. A. Rolis, Esq., Hendre, Monmouth, was an excellent second. Pines Apples were numerous shown. The best two Queen Pines came from Mr. Hepper, gardener to C. O. Ledward, Esq., The Elms, Acton; and for a single fruit of the same variety Mr. Dinsmore, gardener to T. F. Blackwall, Esq., received the first prize. Grapes were very good indeed. The best basket of white Grapes was Muscat of Alexandria, sent by Mr. Douglas, gardener to F. Whitbourne, Esq., Loxford Hall, Ilford; and the best basket of black came from Mr. P. Edwards, gardener to Mrs. Tristram, Liphook, Hants. For three bunches of Muscat of Alexandria Mr. Douglas was again to the front, and for three bunches of white, any other variety, Mr. Mowbray won the first place with Buckland Sweetwater. Black Hamburg Grapes came from Mr. Edwards; Mr. Prince, gardener to F. Gretton, Esq., Bladon House, Burton-on-Trent; and Mr. Feist, all exhibiting remarkably good and well-finished bunches. Peaches and Nectarines were finer than we often meet with them so early in the season. Strawberries, Cherries, and Figs were also fairly represented. Mr. Douglas received the two first prizes for Strawberries and Cherries.

An interesting collection of wild flowers was staged by Mr. W. Hills, Prittleworth, and received the first prize. Carnation and Picotees were exhibited by Messrs. Turner, Douglas, and Hooper, who were placed in the order of their names in both classes. Mr. Douglas occupied the first place for twenty-four trusses of stove and greenhouse flowers, and Mr. Morse the second. Mr. Morse was placed first for twenty-four trusses of hardy herbaceous flowers, and Mr. Wheeler second.

Extra prizes were awarded to Messrs. Williams, Henderson and Son, Carfer & Co., Rollisun, Cutbush, and Osborne, who all staged effective groups of fine-foliage and flowering plants in the centre of the great tent, which was greatly admired by the visitors.

Floral certificates were awarded to Mr. Turner for Rose Harrison Weir, Pink Rose Bonheur, Picotees Lady Rosebery, Sultana, and Ne Plus Ultra; to Messrs. Paul & Son, Waltham Cross, for Rose Countess of Rosebery, and a botanical certificate to Messrs. E. G. Henderson & Son for Polypodium Hendersoni. Messrs. Ivery and Son were awarded a silver medal for an exquisite collection of hardy Ferns; and Messrs. Cannell, Hooper, Laing, Turner, and Chard were also awarded extra prizes.

OUR BORDER FLOWERS—FIGWORTS.

WE have no flower in its season that is more attractive than the Foxglove, or, as some call them, Fairies' Gloves. Fairies were often called Folks; hence, no doubt, the origin of the common name Folksglove, and not, as misspelt, Foxglove.

Foxgloves are a rather numerous family, but there are not many met with in general cultivation. There are many places well adapted to their cultivation. They have a fine effect on stony or elevated banks in open spaces in the shrubbery and the herbaceous border, open woods, and by old walls. They are no way particular as to soil, but they delight in a partially rocky medium for their roots, not objecting to an admixture of lime, but they cannot endure stagnant moisture. They require efficient drainage in cultivation. They are increased by seed, which they produce freely; it is best sown about midsummer. Transplant them when large enough to handle. Remove them with balls in the spring where they are intended

to remain. They are also increased by division in the spring when growth has commenced. Some of them, being of tall habit, require staking to prevent them being broken by the wind.

The kinds most commonly met with in cultivation—and then not so often as they ought to be—are *Digitalis grandiflora*, a tall-growing kind of stately appearance, having large flowers approaching bell shape; the flowers are yellow veined with brown; a fine border flower. *D. lutea*, a yellow kind of much dwarfer habit; a very desirable kind. *D. maculata superba*, a beautifully spotted kind, one of the finest of the family; ought to be in all collections of border flowers. *D. ferruginea* is a somewhat delicate subject and requires care. A stock should be kept in hand, as it often disappears after charming us with its beautiful bronzy-coloured flowers. There are many other desirable kinds. Among the spotted kinds there are great beauties that ought to receive more attention than they are at present receiving, which only need to be seen to be appreciated. Our own *Digitalis purpurea* and *alba*, though not herbaceous plants, are worthy of a place in our borders and other places. To see these plants in bloom in their native homes on craggy moors and upland districts, where they perpetuate themselves without our aid, is a sight that is not soon forgotten by the beholder.—*VERITAS*.

EXTRACT FROM THE REPORT OF THE ADELAIDE BOTANIC GARDEN.

THE roserie, with its numerous varieties, the Rose pillars and festoons, covered with thousands of its well-developed flowers, produced an effect which surpassed imagination; but during the middle of October hot winds destroyed this lovely picture in the course of a few hours, as well as the beautiful appearance of the parterres, borders, and ribbon beds, which had presented the same gay appearance as the roserie.

EXPERIMENTAL GROUND.—Arctic Wheat.—Through the kindness of Mr. S. Deering, Assistant Agent-General, London, I received a sample of Wheat taken from a quantity left by the American Arctic expedition ship "*Polaris*" in 1871, which had been abandoned in north latitude 81° 16'.

This Wheat had been left on the beach exposed to the snow and a temperature of 72° to 104° of frost for five years, and was found in a heap by Dr. Ninnis of H.M. ship "*Discovery*" on the return of the last arctic expedition to England.

I received from Mr. Deering one thousand grains, of which I sowed three hundred, and sent the rest to the Royal Agricultural Society for distribution. From the three hundred grains about sixty germinated. The plants grew healthy, and reached to the height of from 3 to 4 feet. It is a bearded Wheat, and ripened in the commencement of January. The ears contained about thirty grains each, which were but small though round and plump. I am sorry the birds destroyed the greater part before it came to maturity. I mention this interesting fact, which proves the assertion that the grain of the cereals possesses a vitality not surpassed by any other seed.

THE SCREW BEAN (*Prosopis pubescens*, *Benth.*).—Sir J. Hooker kindly forwarded about 8 lbs. of the Screw or Mosquito Bean of Aregona, a new and useful vegetable product suitable to warm and dry climates. According to the diary of Lieut. Whipple, in his survey of the line of boundary between San Diego and the point opposite the junction of the Gila with the Colorado River, he states that the welfare of his horses and mules and the success of the expedition were expected to depend on this Bean; that the screw-like pods grow in clusters of eight or ten upon a stem; that both the screw and pod contain much saccharine matter and are very nutritious; that they ripen at different seasons of the year, and are very abundant, each tree producing many bushels; that it has been used for food by men and cattle, and proved of great value to exploring parties.

The tree is said to yield also a gum equal to gum arabic, which is used for medicinal and technical purposes, especially in preparing mucilage, gum drops, jujubes, paste, &c. It has already become an article of export, some 12,000 lbs. having been gathered in Bexar country, and as much more between that and the coast. No doubt the introduction of a tree of such valuable properties would be a boon to South Australia. The seeds received from Sir J. Hooker had, unfortunately, been attacked by a weevil which, it is said, is commenced on the tree, and it is impossible to collect the seed free from weevils; therefore, fearing that very few seeds of this useful tree would germinate, I applied at once to Mr. Watts, Commissioner of the Department of Agriculture, Washington, U.S., for a larger

supply. This gentleman, always most obliging to our establishment, has promised to try his utmost to procure a quantity of seed of the Mosquito Bean for us. About 120 young plants have come up (about 5 per cent.), from the seed received from Kew, are growing satisfactorily, and will be distributed to different districts during the season.

After several attempts I have at last been successful in introducing the very interesting Peruvian tree, *Erythroxylon Coca*, *Lam.* The leaves contain the remarkable power of stimulating the nervous system, in which respect it quite resembles opium. The dried leaves are chewed with a little finely powdered unslaked lime or with the alkaline ashes of the Quinoa. It lessens the desire for food, and it enables the persons who use it to endure greater exertion than they otherwise could, and with less food; but when used in excess it weakens the digestion, producing other disorders, and finally ruining both body and mind.

The tree has been introduced into Brazil, and it is said about 30,000,000 lbs. of the dried leaf are consumed in a year. The young tree is doing well with us.

Worthy of mention and recommendation are the following ornamental plants—viz., *Dracæna Goldiana*, no doubt one of the handsomest *Dracænas*, and unique in character and aspect. It is a native of tropical Africa, and well worthy a place in all collections. *Coleus pictus*, another interesting discovery from Duke of York's Island. The divers bright colours are curiously blended, and the unusual form of the leaves with their marginal teeth give the plant a curious appearance, making it a great acquisition among the leaf plants.

The collection of Ferns was again increased last year with forty species. The collection of Palms was augmented by eighteen handsome species. The following deserve to be mentioned: *Phoenix rupicola*, one of the most graceful among small Palms, and rivaling in beauty *Cocos Weddelliana*. It comes from India, and is a most valuable acquisition, and will occupy one of the foremost positions among Palms. *Geonoma gracilis* is also a most graceful and elegant small-growing Palm. The habit of the plant and beauty of the foliage adapt it admirably to decoration purposes, and it is also one of the most elegant Palms in cultivation.

Among the Aroids introduced the following deserve special mention for their fine variegated and robust leaves—viz., *Dieffenbachia nobilis*, *brasiliensis*, *vittata*, *Parlatorei*; *Curmeria Wallisii*; *Philodendron Lindenianum*, and *Richardia melanoleuca*.

Among the already numerous collection of Marantas known, a new species has arrived—namely, *Massangeana*, which is, no doubt, one of the handsomest of the genus.

PORTRAITS OF NEW PLANTS AND FLOWERS.

MAGNOLIA STELLATA. *Nat. ord.*, Magnoliaceæ. *Linn.*, Polyandria Polygynia.—This has been previously known as a *Buergeria*. "Quite recently it has been named *Magnolia Halleana* by Mr. S. B. Parsons of Flushing, U.S.A., in compliment to Mr. G. R. Hall of Japan, its introducer into America. Like most other introductions of horticultural interest from Japan, this has been in cultivation by the natives of the Islands, having been found in gardens at Nagasaki by Oldham in 1862. It is, however, stated by Franchet and Savatier to be indigenous in woods of Mount Fusi Yama, and in central Nippon, where it forms a small tree. It is a small tree, with the habit of *M. Yulan*, quite glabrous except for a slight silkiness on the young leaves beneath, and the silky hirsute sepals and bracts."—(*Bot. Mag.*, t. 6370.)

FRITILLARIA SEWERZOWI. *Nat. ord.*, Liliaceæ. *Linn.*, Hexandria Monogynia.—Native of Turkestan. "It inhabits the mountains of Turkestan, reaching an elevation of 6000 feet above sea level, and is quite hardy in England. Received at Kew some time ago from Dr. Regel. Mr. Elwes has been very successful with it, his specimens having attained great size and luxuriance."—(*Ibid.*, t. 6371.)

MASDEVALLIA SHUTTLEWORTHII. *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—"The geographical limits of the genus seem to be limited to the northern and western countries of South America, where they inhabit cool temperate humid regions. *M. Shuttleworthii* was discovered, by the traveller whose name it bears, in the United States of Colombia when collecting for Mr. Bull."—(*Ibid.*, t. 6372.)

DEHERAINIA SMARAGDINA. *Nat. ord.*, Myrsinæ. *Linn.*, Pentandria Monogynia.—A plant with large deep green flowers. "The genus *Deherainia* was established by Decaisne

in 1876, and named by him in compliment to M. Pierre-Paul Deherain, Aide-naturaliste of the museum of the Jardin des Plantes. It was discovered in Mexico near Tabasco, one of the oldest towns of the Mexican Confederation, on the borders of the Chiapas, celebrated as the scene of one of Cortez's earliest and greatest victories. The climate of Tabasco is hot and damp, and, as was to be expected, Deherainia is a thoroughly tropical plant. M. Decaisne describes it as flowering in the stoves of the Jardin des Plantes in May and July. It flowered in the Palm house of Kew in May, when quite small; it was received from Mr. Linden, who imported it into Europe."

—(*Ibid.*, t. 6373.)

TULIPA SAXATILIS. *Nat. ord.*, Liliaceæ. *Linn.*, Hexandria Monogynia.—"This is a very rare Tulip, that has been known for a long time in herbaria as a native of Crete, but has never been introduced into cultivation till now, when it has been rediscovered and brought home by Mr. G. Maw, who, as well as Mr. Elwes, has flowered it successfully this present spring. It is a most distinct and interesting species both from a horticultural and botanical point of view. For decorative purposes we do not get anywhere else in the genus a large flower of a bright mauve-purple colour with a bright yellow eye."

—(*Ibid.*, t. 6374.)

ROYAL HORTICULTURAL SOCIETY'S PROVINCIAL SHOW AT PRESTON.—JULY 10TH TO 14TH.

BURY ST. EDMUNDS in 1867, Leicester in 1868, Manchester in 1869, Oxford in 1870, Nottingham in 1871, Birmingham in 1872, and Bath in 1873—such was the sequence of the past great provincial shows of the Society, and now we arrive at the present, the seventh great horticultural gathering at the busy town of Preston in the populous county of Lancashire.

For the holding of this long-anticipated Exhibition great preparations had been made both by the Executive Committee and exhibitors. The former, under the leadership of the indefatigable Local Hon. Secretary and earnest and accomplished horticulturist, T. M. Shuttleworth, Esq., have brought to bear much foresight and energy in carrying out the requisite work in connection with this really great undertaking. Acting distinct from, yet in unison with, the Council of the Society in London, the preparations, which were unusually extensive, are singularly complete, the final touches having been imparted by the Society's experienced Garden Superintendent, Mr. A. F. Barron.

Arduous as the labours of the Executive Committee have been, they were not lightened by the unfortunate disruption that occurred and so long prevailed in connection with the staple trade of the manufacturing district in which the Show is held. For a long time the utmost anxiety was felt in all parts of the country lest, after all the efforts that had been made and all the responsibility that had been incurred, failure as regards the number of visitors should ensue. But at length, and almost on the eve of the tournament, glad and welcome tidings flashed throughout the land that the night of trade inactivity had ended, and that the morning of prosperity had again dawned. Labour under the conditions alluded to was unusually trying, and there are few—indeed, let us hope none—who could withhold their sympathy from those on whom the duty devolved of working under such depressing and disadvantageous circumstances.

The schedule issued by the Society for this the great Show of the year was also, and fittingly, of considerable magnitude, and was comprehensive, varied, and liberal. The prizes provided by the Society were arranged in six sections—namely, for plants and cut flowers to be competed for by amateurs, and a corresponding section for nurserymen; a trio of "open" classes, including the leading class of the Show, in which £60 was offered in three prizes for sixteen stove and greenhouse plants; sections for fruit, vegetables, implements, tools, and garden appliances, in which two gold and nine silver medals were provided; and a division for cottagers and artisans, the prizes being competed for on the closing day of the Exhibition. The chief prizes offered for plants in the amateurs' section were £20, £15, and £10 for twelve plants in bloom; £12, £10, and £7 for a similar number of plants, half to be in bloom; and £10, £7, and £5 for six plants. In the Orchid classes in the same section £20, £15, and £10 were provided for twelve plants; and £10, £7, and £5 for six plants. First prizes of £12 were provided for nine fine-foliaged plants and for nine exotic Ferns, and premier prizes of £6 were offered for six exotic Ferns, six *Ericas*, six *Crotons*, six new and rare plants, twelve British Ferns, and nine *Fuchsias*.

In the nurserymen's division the principal amounts offered were £25, £20, and £15 for a group of plants arranged for effect in space not exceeding 250 superficial feet, and £20, £15, and £10 for

corresponding collections of hardy plants. For twelve plants not in commerce the prizes were £15, £10, and £7, and for the same number of plants sent out in 1876, 1877, and 1878 the amounts offered were £12, £8, and £6. £15, £10, and £6 were provided for twelve stove and greenhouse plants in bloom, and the same amounts for twelve Orchids. For twenty Conifers and Taxads £15, £10, and £7 were apportioned. For twelve specimen Clematises £12, £10, and £7; and first prizes of £10 were offered for nine fine-foliaged plants and for twelve exotic Ferns.

The chief prizes in the fruit classes were £15, £12, and £5 for collections, and £10 were offered in three prizes for collections of Strawberries in not less than ten varieties. The principal prizes in the four classes for Grapes were amounts of £3. The leading prizes for vegetables were £6, £4, and £3 for collections of eight distinct kinds.

Besides the above prizes and about two hundred others offered by the Society many prizes of great value were provided by the leading nurserymen and seedsmen. Taking them in the order of the schedule we find twelve silver cups and liberal money prizes offered by Mr. William Bull for new plants of his. Messrs. James Carter & Co. provided about £50 for distribution in nineteen prizes for vegetables and Melons. Messrs. Sutton & Sons offered two gold, two silver, and two bronze medals, besides sixteen guineas in money, for collections of vegetables and for Melons and Cucumbers; and last, but not least neither in importance nor value, were the prizes for fruit provided by Messrs. James Veitch & Sons. Twenty-four prizes were offered in this section of the aggregate value of £111. The principal were £15, £10, and £7 for collections of fruit. Extremely liberal prizes were also offered for Black Hamburgh and Muscat of Alexandria Grapes—varieties that were not included in the Society's prize list, also for four varieties of Grapes, Pines, and other fruits.

This recapitulation shows the great encouragement given to insure competition, and now, so far as time and telegraph permits, we submit those awards of the Judges that were made within an hour of our going to press, deferring the completion of our report until another issue of the Journal; but first we may briefly notice the general effect and arrangement of the Exhibition, and also give some tangible idea of its character and magnitude.

The Show, it may be stated, occupies one of the finest sites for the purpose that could be found in the kingdom. Chimneys are generally supposed to "adorn" the landscape in the manufacturing districts, and the "misty haze" that poets dream of and sing of are interpreted in those districts as "smoke." But neither smoke nor chimneys can be associated with the Preston Show. The site is a mile or more from the town: it is an elevated plateau fresh and breezy overlooking the vale of the Ribble, the rising hills beyond which are mapped out by Nature in all her boldness and all her beauty. The grounds of the Preston Nursery Company, which are 150 acres in extent, contain other features of notice besides this fine site for a Royal Horticultural show; and to the Manager of that Company, Mr. Troughton, the Society is much indebted for the substantial aid he has rendered by the construction of roads and otherwise endeavouring to promote the success of the undertaking.

The preparations for this great Show were entrusted to a General Committee of ten gentlemen, with the Mayor of the town (J. Satterthwaite, Esq.) as President. From this body sectional Committees were formed as follows:—Finance and General Administration: Mr. T. M. Shuttleworth, Mr. S. Jennings (London), Mr. Burrows (Treasurer), Mr. Poole, and Mr. Burrow. Ground Committee: Mr. Councillor Nevett, Mr. Councillor Foreshaw, Mr. Troughton, and Mr. A. F. Barron. Refreshments and Decorations: Mr. Alderman Hallmark, Mr. Alderman Ambler, and Mr. Harding. The gentlemen constituting those Committees have worked with commendable zeal in rendering the preparations complete by the specified time in the several departments. On Mr. Cowell, the Assistant Secretary, much labour devolved owing to the unfortunate illness of his chief (Mr. Shuttleworth), for whom great and general sympathy is expressed; but Mr. Cowell has proved himself equal to the emergency, and is discharging his duties with great efficiency.

In the arrangements of the tents and exhibits no attempt has been made to produce a striking impression on the minds of visitors when first entering the grounds. Although the space embraces 30 to 40 acres, yet the Exhibition is somewhat crowded, one portion to a considerable extent hiding another portion; the result is that the Show is much larger than at first sight it appears, and the individuality, so to speak, of the different exhibits is perhaps enhanced by the mode of arrangement adopted.

The tents for the accommodation of the several collections of plants, flowers, and fruit are provided by Messrs. Unite of London, and are very commodious. The chief plant marquee is 260 feet long by 130 wide, the fruit and vegetable tent is 300 feet by 30 feet, and the tent for cut flowers and miscellaneous exhibits is 170 feet by 30. The offices are admirably arranged and substantially built of wood. They afford every accommodation required. They are, indeed, the best erections of the kind we have seen, and reflect much credit on the Executive and on Mr. Nevitt, who designed them and superintended their erection.

The manner in which the ground in the large marquee is laid out demands notice. The design adopted is a modification of the plan recently submitted by Mr. Johnson, landscape gardener, Belfast, to the Council of the Society in London, and is not only a great improvement on that plan, but is really an admirable, tasteful, and successful mode of displaying the plants and collections individually, as well as producing a delightfully varied and picturesque effect when viewed as a whole. Three entrances are provided to the tent—one at each end, and a third in the centre of the south side. A broad curving walk encircles the great enclosure at the proper distance from the sides of the tent to enable the large specimen flowering and ornamental-foliaged plants being arranged on the sloping banks there formed, and which are made to assume a series of small promontories of bold yet smooth outline. Along the centre of the tent, or nearly the centre, the prominent feature is a serpentine sheet of water nearly 200 feet long and 8 to 9 feet wide in the narrow parts between the semi-islands, and more than double that width where the plant mounds are not opposite to each other. There are fifteen of these mounds jutting into the water; they are mostly oval-shaped, 8 or 9 feet by 6 feet. Standing on inverted pots placed in the water are tall Tree Ferns from Mr. Williams's rich stores at Holloway, and the avenue of these stately stems being reflected in the water, which is fortunately clear, constitutes one of the most picturesque features of the Show. On the mounds or semi-islands are the collections of Orchids, new plants, Ferns, highly coloured *Dracænas*, &c., and the general effect produced is rich yet chaste and peculiarly refreshing. The centre of the tent—the water scene—is, of course, considerably depressed, the sides being proportionally elevated, and altogether the tent is extremely diversified and highly imposing. Beautiful views are obtained from the three elevations that have been formed—one in the centre at the southern entrance to the marquee, and the others one near each corner on the opposite or north side of the structure. Besides the curving walk alluded to as encircling the tent, an inner walk also encircles the water, and a large bold pile of rockwork decorated with plants, and from which a miniature cascade trickles, breaks the uniformity of the Show and imparts variety to the marquee.

In addition to the sloping banks round the sides of the building two large irregular-shaped beds 20 to 30 feet in diameter are formed on either side of the tent near the eastern entrance. The one on the left is occupied by the extremely rich and singularly beautiful miscellaneous collection of Messrs. James Veitch and Sons; the opposite mound being jointly occupied by Mr. B. S. Williams, Holloway, and Messrs. Rollisson & Sons, Tooting. The Holloway collection consists of about one hundred choice and rare fine-foliaged and flowering plants of moderate growth. Messrs. Rollisson's render their group distinct and highly attractive by the introduction of several moderate-sized specimens of *Ericas* in the best old and some valuable new varieties. A large box filled with small plants of the beautiful smooth-flowered *E. Dennisoniana* is extremely attractive and commands much attention. In fine contrast are similar boxes of the richly coloured varieties *Massoni* major and *tricolor profusa*. Messrs. Veitch's collection contains the grand *Alloccasias Warroqueana*, *Veitchii*, and *Thibautiana*; a splendid assortment of *Tuberous Begonias*, including the distinct and brilliant *B. Davisii*; choice *Rhododendrons*, *Crotons*, *Orchids*, *Gloxinias*, *Nepenthes*, and other varieties for which the Chelsea establishment is famed. Than these two entrance groups nothing in the Exhibition is more attractive and more generally admired. The corresponding beds at the opposite end are occupied with amateurs' collections.

But speaking of the amateurs we must express strong approval of the magnificent specimens belonging to Mr. Shuttleworth, which constitute by far the finest contribution of its kind in the Show. Both flowering and fine-foliaged plants are grand in size, symmetry, and condition. *Palms*, *Gleichenias*, *Crotons*, *Ixoras*, and *Allamandas* are alike superior, and occupy a prominent position of the tent in a splendid manner. They are not for competition.

Mr. Hammond, gardener to Sir Wilfred Lawson, Bart., Brayton, Carlisle, exhibits some very valuable collections, including excellently grown *Dracænas*, well-coloured *Crotons*, fine-foliage plants in admirable condition, also *Palms*, including the best plant of *Cocos Weddelliana* in the Show, and an equally striking specimen of *Acanthorhiza Warscewiczii*; also new plants, including a splendid example of *Phyllotænum Lindenii*, one of the finest varieties extant. Mr. Hammond also stages a fine example of *Lomaria dalgairensis*, the finest plant we have seen producing fertile fronds.

In the class for nine fine-foliage plants Mr. Osman, gardener to R. B. Dodson, Esq., Beardwood, Blackburn, exhibits a grand *Cycas revoluta* in fruit, also a remarkably beautiful specimen in splendid colour and condition of *Anthurium crystallinum*.

Mrs. Cole & Son and Mr. Tudgey, gardener to T. F. G. Williams, Esq., are the principal exhibitors in the specimen-plant classes, both their flowering and fine-foliaged plants being excellent. It is not necessary, however, to describe them, as they are the same plants that were mentioned in our reports of the York and Leeds Shows. Mr. Pilgrim, Cheltenham, also exhibits attractive flowering plants and excellent examples of ornamental-foliaged plants, as also do the Preston Nursery Company. The same exhibitors

and Mr. Tudgey are the chief exhibitors of *Ericas*; but, with a very few exceptions, the plants are not superior. *Pelargoniums* are only of moderate quality, the season being fully late for these plants.

Ferns are excellent, the principal exhibitors in the classes for exotics being Messrs. Pilgrim, Cole & Son, Tudgey, and the Preston Nursery Company. In the classes for hardy Ferns, E. J. Lowe, Thomas Bolton, and John Atherton, Esqrs., exhibit admirably cultivated plants of choice species and varieties; and Jabez Jones, Esq., stages a novel collection of *Succulents*.

In the groups of plants arranged for effect the only exhibitors are the Preston Nursery Company and Messrs. F. & A. Dickson, Chester. The collections contain a varied assortment of healthily grown plants, but they were not arranged in a particularly striking or artistic manner.

Messrs. Bull, Williams, and Rollisson exhibit collections of new plants, which are closely examined and the merits of the plants are much discussed by those visitors who have not previously had an opportunity of seeing them. They have been frequently seen in London, and their names have been often enumerated in reports of previous shows.

Besides the Tree Ferns, new plants, and miscellaneous collections referred to, Mr. Williams stages a splendid collection of *Orchids* in the class for twelve plants, also *Dracænas* and *Crotons* of remarkable beauty. *Croton Williamsii* and *C. Prince of Wales* are extremely bright and much admired. *Crotons* are excellently exhibited in several of the collections, and play an important part in imparting colour to the Show. The Preston Nursery Company and Mrs. Cole & Son among others stage well-grown and highly coloured specimens. Messrs. Rollisson & Sons arrange splendid *Dracænas*, including the new and striking *D. Smithiana*, rich dark green in colour and very distinct and imposing. They also exhibit six good *Orchids*; *Oncidium macranthum* has splendid flowers, and the plant of *Dendrobium filiforme* is quite charming. Dr. Ainsworth's *Orchids* also command, as they always do, much attention on account of their richness and high culture.

About 140 classes are provided in the schedule, and in all except half a dozen there are entries; in some, notably in several of the fruit and vegetable classes, they are very numerous. The total number of entries for the Show exceeds 800—namely, of plants, 222; of cut flowers, *Roses*, and bouquets, 32; fruit, 223; vegetables, 304; and implements, 30.

GARDEN STRUCTURES.—These are numerous and excellent. Messrs. Messenger & Co., Loughborough, exhibit four span-roofed houses of various sizes and adapted for different purposes—neat, light, strong, well-ventilated, and efficiently heated structures; two span-roofed frames, a range of glass coping, and a tubular saddle boiler with triangular-shaped bars, evidently a powerful boiler; also examples of their patent valves for hot-water pipes, which are admittedly of great excellence.

Messrs. Richardson & Co., Darlington, exhibit a splendid span-roofed house, highly finished, with all the latest improvements in glazing and ventilating. The sashbars are formed so as to protect the putty, and they also effectively provide against internal drip. The ventilation is most ample, not only the apex but the whole length of the rafters and also the front of the house opening by a well-arranged and easily-worked system of leverage. The same firm also exhibit their new hooded horizontal tubular boiler, which is unquestionably a powerful and strongly constructed apparatus. They also exhibit several models of houses, and a capital example of a wall cover for protecting Peaches, &c.

Mr. Halliday, Middleton near Manchester, exhibits eight houses of various sizes; one of them is fitted with slate stages and hot-water pipes complete, another with tanks for forcing, another is wired as for a Peach house, another a vinery, the sashbars being of T-shaped iron, and shows also a capital system of straining wire; another large structure is glazed on Helliwell's patent system, whereby all the woodwork is covered with glass, a capital Strawberry house, and a roomy span-roofed greenhouse. All the houses are light yet strong, and the ventilating machinery is very efficient and works smoothly and easily.

Mr. P. J. Perry, Banbury, exhibits a large, lofty, and highly ornate span-roofed structure, two curvilinear-roofed houses evidently well constructed.

Mr. John Webster, Wavertree, near Liverpool, exhibits a remarkably substantially-built span-roofed house, and different size *Cucumber* frames.

Messrs. Cranston & Luck, Birmingham, exhibit light strong houses, constructed on the principle with which their names are identified, and which have found much favour in various parts of the country.

Boilers are exhibited by various makers. One of the most striking because quite new is Metcalf's "combination" boiler. This boiler combines, with vertical tubes surrounding the furnace, a series of horizontal flues between hollow plates or water chambers, thereby providing a very large extent of heating surface in a comparatively small size of boiler. Mr. Wagstaff, Dukinfield, exhibits tubular and conical boilers which cannot fail being quick in their action and powerful. Mr. Seward, Preston, and Mr.

Harlow, Macclesfield, also exhibit boilers; and last, but not least in importance, Messrs. J. Weeks & Co., Chelsea, London, exhibit examples of their celebrated duplex tubular boilers, which being in operation and doing their work well in various parts of this and other countries renders it superfluous to allude to them in further detail. Their works speak more conclusively than can any words of ours.

Wire and rustic work are also represented: prominent are the rustic bridges of Mr. Henry Inman of Manchester, which span the pool in front of the large tent; near which valuable collections of Conifers are arranged by Mr. Barron of Elvaston and Messrs. F. & A. Dickson of Chester.

Appended is a list of such of the prizes that were awarded by the Judges as we could obtain during the limited time at our disposal.

In the open class for sixteen stove and greenhouse plants, distinct, eight in bloom and eight with fine foliage, the first prize of £30 was taken by J. F. G. Williams, Esq., Henwick Grange, with splendid plants; Mrs. Cole & Son took the second of £20 also with fine plants; and the Preston Nursery Company were awarded the third. In the class for twelve stove and greenhouse plants in bloom (amateurs), J. F. G. Williams, Esq., again took the first prize of £20; and in that for six E. Pilgrim, Esq., was first. For twelve miscellaneous stove and greenhouse plants, distinct, R. Pilgrim, Esq., was again first; Miss Ffarington second, and W. Birley, Esq., third. To R. B. Dodgson, Esq., Blackburn, was awarded the first prize of £20 for twelve splendid exotic Orchids in bloom, and to Dr. Ainsworth the second prize of £15. Mrs. Birchall was first for nine exotic Ferns, distinct, and D. Chapman, Esq., third.

For nine fine-foliage plants, distinct, R. B. Dodgson, Esq., was first; Mr. Hammond second; and J. F. G. Williams, Esq., third. For six of the same Mr. Pilgrim was first; and G. Foreshaw, Esq., second. For six new and rare plants Mr. Hammond was second; and Hon. A. C. C. Maxwell third. For six Crotons, distinct, (amateurs), E. Pilgrim, Esq., was first; and Mr. J. Hammond third; and among nurserymen, the Preston Nursery Co. took the first, Mr. B. S. Williams the second, and Mrs. E. Cole & Son third.

For twelve British Ferns, distinct, Mr. T. Bolton was first; E. J. Lowe, Esq., second; and R. O. Dodgson, Esq., third. For six E. Pilgrim, Esq., was first; J. Stewardson, Esq., second; and Col. Cross third. For twelve exotic Ferns, distinct (nurserymen), Mrs. Cole & Son were first and the Preston Nursery Company second. D. Chapman, Esq., Manchester; took the first prize for two Tree Ferns, and the Preston Nursery Company for three Tree Ferns, distinct, with stems not less than 5 feet high. For six Adiantums, distinct, R. B. Dodgson, Esq., was awarded the first prize, Mrs. Birchall the second, and J. Foreshaw, Esq., the third.

For six Show Pelargoniums the second prize was awarded to W. Birley, Esq.; and for six Zonals (amateurs) W. Birley, Esq., was awarded the first prize; Mr. J. B. Jones the second; and Mr. David Chapman third. In the class for nine Zonals (nurserymen) the Preston Nursery Company took the first, and C. Ryland, Esq., the second, while for nine Fancies (nurserymen) Mr. C. Ryland was first. For six Fuchsias, distinct, in bloom, Mr. Pilgrim was first, Mr. R. B. Dodgson second, and Mr. Tudgey third.

H. Wilson, Esq., took the first for a basket of Roses with Rose foliage only. For twelve Roses, distinct, single blooms, J. Taylor, Esq., was first; Lord Wimmerleigh, second; and T. Bolton, Esq., third. While for twenty-four, General Upton, Milnthorpe, was first; H. Wilson, Esq., Cheadle, second; and W. Warburton, Esq., third. For seventy-two Roses, distinct, single flowers (nurserymen), Messrs. Cranston & Co. were first; and Mr. G. Davidson second. This was a very fine class. For twenty-four, distinct (nurserymen), Mr. Rylands was second; and for forty-eight, Mr. Prince was first, Mr. Corp second. This class contained excellent blooms.

For six Ericas in bloom Mrs. Cole & Sons took the second prize, and the Preston Nursery Company the third. For a group of one hundred miscellaneous stove, greenhouse, and hardy plants, Messrs. W. Barron & Sons were first; Messrs. F. & A. Dickson & Sons second; and the Preston Nursery Company third. For twelve stove and greenhouse plants in bloom the Preston Nursery Company were first, and Mrs. Cole & Sons second; and for a basket of twelve bunches of stove and greenhouse flowers, distinct, Mrs. Cole & Sons were first; the Preston Nursery Company second; and Messrs. Turner Brothers, Liverpool, third.

For twelve new and rare plants not in commerce (nurserymen), the first prize of £15 was won by Mr. W. Bull; and the second of £10 by Mr. B. S. Williams; and for the same sent out in 1876, 1877, and 1878, Mr. Bull was first, Mr. B. S. Williams second, and Messrs. Rollisson third.

For twelve exotic Orchids (nurserymen), Mr. B. S. Williams took the first prize, and for six the first was awarded to Mr. W. Robinson, and the second to Messrs. W. Rollisson & Sons.

For six Tuberous Begonias in flower, distinct (nurserymen), Messrs. J. Laing & Co., Forest Hill, took the first prize with very fine plants, and Mr. J. B. Jones among the amateurs.

For three Palms, distinct, Mr. Hammond took the first; E. Pilgrim, Esq., the second; and Miss Ffarington the third. For

six Caladiums, distinct, E. Birley, Esq., was first. For twelve Dracenas, distinct (nurserymen), Messrs. W. Rollisson & Son took the first prize; Mr. B. S. Williams, Holloway, the second; and the Preston Nursery Company the third; while for six (amateurs) the first prize was awarded to Mr. Hammond; the second to R. B. Dodgson, Esq.; and the third to J. Hardy, Esq.

For twenty Conifers and Taxads, not to exceed 6 feet, Messrs. W. Barron & Son were first; and F. & A. Dickson & Co. second. For twelve Succulents distinct, Mr. J. Atherton was first; and Mr. J. B. Jones second.

For any plants or flowers not specially mentioned in the foregoing classes, Messrs. James Dickson & Son were first; and Mr. H. Boller second.

For the Society's prizes of £15, £10, and £5, for a collection of fruit (open), Earl Somers was first, and Lord Bagot second, in an extremely fine class. For three bunches of Madresfield Court Grapes T. Barnes, Esq., was first, Lord Bagot second, and J. Cowan, Esq., third. For three bunches of any black Grapes except Madresfield Court and Black Hamburg, Mr. Barnes was first, and Lord Bagot second. For three bunches of any white kind except Muscat of Alexandria, Lord Bagot was first, W. Warburton, Esq., second, and Viscount Boyne third. For a basket of not less than 12 lbs. of Grapes, R. Reeves, Esq., St. Helens, was first, Mrs. Vivian second, and J. H. Vivian, Esq., third. For a single fruit of Queen Pine Apple, R. Gretton, Esq., Burton-on-Trent, was first, and Viscount Hill second. For a collection of not less than ten varieties of Strawberries Lord Hill was first, C. Thulluson, Esq., second, and Mr. Mansley third. For two dishes, distinct varieties, Lord Beauchamp was first, Lord Somers second, John Taylor, Esq., taking the third prize. For a single fruit of Melon, which is a fine class, the Hon. C. C. Maxwell was first, the Earl of Crawford second, and W. Blinkhorn, Esq., third.

VEGETABLES.—For a collection of eight distinct kinds, to be shown on separate dishes, Lord Carington was first; R. Walsley, Esq., second; and R. B. W. Baker, Esq., third. For three distinct kinds of Peas, half a peck of each, Sir T. Edwards Moss, Bart., was first; W. R. Winch, Esq., second; and W. Mansley, Esq., third. For three distinct kinds of Potatoes, nine tubers of each, Mr. Iggulden was first; J. Taylor, Esq., second; and Lord Carington third. For twelve Onions, Messrs. E. Smith & Son were first; Mr. Miles, Wycombe Abbey, second; and Mr. Woodhouse, sen., third. For twelve Tomatoes, Mr. Hinds, Otterspool, was first; Mr. Miles, Wycombe Abbey, second; and Mr. Cox third. For one brace of Cucumbers E. Birley, Esq., was first; T. B. Dolby, Esq., second, and Col. Cross third. For a collection of six distinct kinds of salads, to be shown on separate dishes, Messrs. Smith and Son took the prize. For any vegetable not specially mentioned in the schedule, Mr. Cox, Madresfield Court, took the first prize; Mr. Miles, Wycombe Abbey, the second; and Mr. Iggulden, Orsett Hall, the third.

We now come to the special prizes offered by nurserymen, and first we shall notice those offered by Messrs. James Carter & Co., which were restricted to gentlemen's gardeners and amateurs. In the class for the best thirteen dishes of vegetables the first prize of £10 was awarded to Mr. Miles, Wycombe; J. Richardson, Esq., has the second; and Mr. Cox, Madresfield Court, the third. The fourth prize was awarded to Viscount Hill, the fifth to Mr. Hinds, Otterspool; and the sixth to H. Marriott, Esq. This was a very fine class. For the best three dishes of Peas, consisting of Carter's Little Wonder, Culverwell's Telegraph, and Carter's Challenger, J. Richardson, Esq., took the first prize of £5 5s.; Mr. Miles the second of £4 4s.; and Mr. Marriott the third of £3 3s. The fourth prize was awarded to T. Thompson, Esq., and the fifth to R. Thompson, Esq.

Prizes offered by Messrs. Sutton & Sons.—For twelve distinct kinds of vegetables, to include Sutton's Duchess of Edinburgh and Sutton's Giant Emerald Marrow Peas, Canadian Wonder and Sutton's Broad Windsor Beans, the first prize, a gold medal and £5 5s., was awarded to Mr. Cox; the second, a silver medal and £3 3s., to Mr. Iggulden.

The following prizes for fruit were offered by Messrs. James Veitch & Son:—For the best collection in ten distinct kinds, the prizes for which were £15, £10, and £7, Lord Somers won the first prize with a grand collection; and in the next class for the same Lord Bagot was first, the Duke of St. Albans second, and Viscount Hill third. A good class. For the best three bunches of Muscat of Alexandria Grapes Lord Bagot was first; A. Smollett, Esq., second; and B. Shaw, Esq., third. This is a splendid collection. For the best three bunches of Black Hamburg Grapes Lord Somers was first; F. Norris, Esq., second; and R. Prince, Esq., third. A remarkably fine class. For four bunches of Grapes, distinct kinds, one bunch of each, T. Barnes, Esq., was first, and Lord Bagot second. This was a fine class. For three Pine Apples—Coldward, Esq., was first; Mrs. Vivian second; and J. Austin, Esq., second. For six fruit of one kind of Peach, which was a superior class, Earl Crawford was first, Earl Somers second, and W. R. Finch, Esq., third. For six fruit of one kind of Nectarine the Duke of St. Albans was first, Earl of Crawford second, and Lord Bagot third. An excellent class.

Mr. Bull offered silver cups of the value of fifteen, ten, and six guineas to private growers. Mr. Hammond won the first and Mr. Tudgy the second. Mr. Bull also offered cups of the same value to nurserymen, the first of which was won by Mr. B. S. Williams of Holloway. For those private growers who had not previously won any of Mr. Bull's cups the Hon. A. C. C. Maxwell won the second, a silver cup of the value of ten guineas and £7; and the Preston Nursery Company among nurserymen.

The fruit generally is of excellent quality, the collections and Grapes being especially superior; vegetables are also admirably exhibited by the several competitors. Amongst cut flowers the Hereford Roses command much attention by their great excellence. The Show is a success, the town decorated, the company numerous, and the weather dull.

The President of the Society, the Right Hon. Lord Aberdare, arrived at Preston at midnight, and was met by the Mayor and S. Jennings, Esq., the Assistant Secretary. His lordship during his stay in Preston is the guest of W. Burley, Esq., The Larches. The Show was opened by his Lordship at one o'clock on Wednesday, the Mayor and Corporation attending with the mace (the finest in England) and civic paraphernalia, and afterwards a grand luncheon was provided on the grounds, and a gardeners' and exhibitors' dinner was held in the town at night.

The Show is both great and good, and continuing as it does throughout the week, all who are interested in horticulture should make an effort to see it.

The officials, one and all, work earnestly and willingly in seeking to render the Exhibition both enjoyable and successful. Their courtesy is also unfeigned, and they accord an hospitable welcome to all who aid in promoting the work in which they are so laudably engaged. Only fine weather is required to render the Show in every respect what we trust it will be—a Show of "happy memories."

NOTES AND GLEANINGS.

THE thirty-fifth anniversary of that admirable Society the GARDENERS' ROYAL BENEVOLENT INSTITUTION was held at the Albion Tavern, Aldersgate Street, London, on the evening of the 3rd inst. The chair was occupied by Robert Marnock, Esq., who was supported by a large body of gentlemen and horticulturalists; amongst whom we noticed Professor Bentley, J. J. Mechi, Esq., Mr. Sergeant Cox, F. A. Philbrick, Esq., Q.C., Dr. Hogg, Mr. Shirley Hibberd, Mr. T. Moore; Messrs. H. J. Veitch, Williams, Bull, W. Paul, C. Turner, and others interested in the success of the institution. The donations and subscriptions received during the evening were stated by Mr. Cutler, the Institution's excellent Secretary, as amounting to upwards of £600.

THE summer Show of the Botanical and Horticultural Society of DURHAM AND NORTHUMBERLAND, which will open at Newcastle-on-Tyne on the 18th inst., is expected to be both extensive and excellent. The schedule is very comprehensive and the prizes are both numerous and liberal. In the open class for fifty plants in bloom £25 and the Royal Horticultural Society's silver Knightian medal are offered as the first prize, the remaining prizes in the class being £15 and £10. Under the skilled superintendence of the active Hon. Secretaries, Messrs. Taylor and French, good management is assured, and a Show worthy alike of the patronage of exhibitors and visitors is anticipated. Mr. J. J. Gillespie is the acting Secretary.

THE UPPER NORWOOD HORTICULTURAL SOCIETY'S FIRST SHOW was held on the 4th inst. in the grounds of F. Harford, Esq. The exhibits were arranged in a spacious tent 170 feet by 50 feet under the direction of Mr. F. Minchener, the energetic Hon. Secretary, and his colleagues. The gentlemen and gardeners of the district staged admirable collections of plants, and Mr. Wills, Anerley Nursery, contributed a splendid group. Roses were superior, Mr. Coppin, Shirley, being the chief prizewinner. The Exhibition was a highly successful one.

THE summer Exhibition of the BRENTWOOD HORTICULTURAL SOCIETY, held on the 4th inst. in the grounds adjoining Middleton Hall, the residence of the Countess Tasker, was in every respect a complete success. The plants, fruit, and vegetables were equal to, and the Roses—notably those shown by Mr. B. R. Cant, Colchester—much in advance of exhibits on former occasions. Mr. Lane, gardener, Pyrgo Park, Romford, gained the premier prize for plants; and Messrs. Bones, Havering Park, Romford; Bradley, South Weald; Mann, Brentwood; Wise, Hampton House, Warley; Miller, Halstead; and Saltmarsh & Son, Chelmsford, were all winners of one or more first prizes in the various plant classes. Mr. B. R. Cant was first for forty-eight Roses, and Messrs. Salt-

marsh & Son second. In the amateurs' classes Mr. Atkinson, Warley, was first for twenty-four Roses; and Mr. Pemberton, Havering, for twelve Roses. Fruit and vegetables were extensively and well shown both by gardeners and cottagers. Mr. Bones was first for a collection of fruit; Mr. Lane for black Grapes; and Mr. Foster, Warley, for white. Mr. J. Smith, Romford, was very successful in the classes for Strawberries, Mr. Lane was first for eight varieties of vegetables, and Mr. Pope for a brace of Cucumbers. An autumn Show will be held on the 12th of September.

MR. LUCKHURST informs us that EARLY BEATRICE PEACH was ripe at Oldlands, Sussex, on the 1st of July in an unheated Peach house.

WE have received from Messrs. Charles Lee & Son of Hammersmith fruit of the WEEPING BLACK BIGARREAU CHERRY. This is in every sense a true Bigarreau in the fruit, which is of large size and excellent flavour, but it is remarkable from ripening a fortnight earlier than the Bigarreau, and the habit of the tree being weeping, so that it is equally an ornamental and fruit tree. We believe this is the first time it has fruited in this country. It was introduced from the Continent, where it is still a novelty as well as in this country, and where it is known by the names *Bigarreau Pleureur* and *Bigarreau Noir Monstrueux Pleureur*.

THE western entrance to BATTERSEA PARK is now rendered extremely gay by the large and brilliant clumps of *Lilium umbellatum*. This hardy and free-growing and flowering Lily is very valuable for pleasure-ground decoration in the early summer months. Almost rivaling the Lilies in effect are the purple and scarlet Pentstemons which are now flowering in rich masses. The plants have been in the border all the winter, and in the spring the straggling shoots were pruned rather closely. We never before saw such a fine display of Pentstemons so early in the season. The great work of bedding-out in this Park is nearly completed. The carpet-bedding designs are very pleasing, and the subtropical and other beds have been planted with great taste. In a few weeks the Park will be in its summer attire, and will be as enjoyable and instructive as it has been in previous years.

ENGLISH writers have, says the "Journal of Forestry," made the poet POPE'S WILLOW AT TWICKENHAM quite historic. About 150 years ago an English merchant, Mr. Vernon, doing business in Aleppo and Smyrna, brought to Alexander Pope a package of Figs encased in a basket made of unpeeled osiers. Noticing that one of the scions penetrating into the moist Figs was budding Pope carefully cut it out and planted it. Thence grew the famous "Syrian Willow," which became a favourite with the poet, and finally with the English people—so much so that his successor on the Twickenham estate felled the tree to avoid the annoyance of the crowds of visitors which it attracted to his grounds. Its successor is now growing at the Twickenham villa. It was also planted soon after on the banks of the Thames in Kew Gardens, where it still thrives.

WE omitted stating in our report of the LEEDS SHOW that Mr. S. W. Thackray of Burley, near Leeds, exhibited a span-roofed greenhouse glazed on Helliwell's new patent system without putty. The house was extremely light, the whole of the woodwork being covered with glass; the squares appeared also to be quite secure against displacement by high winds, and the roof was evidently watertight.

IN Spain the LEMON-SCENTED VERBENA (*Aloysia citriodora*), says an American contemporary, which we cultivate as a scented garden plant, is collected and stored for winter use. With the Spaniards it is said to form one of the finest stomachics and cordials, and is taken either made into a decoction and drunk cold with water and sugar as a tonic, or with the morning and evening cup of tea. A sprig of about five or six leaves of the Lemon Verbena is first put into the cup, and the hot tea poured upon it. By using this, Spanish authorities assert, "you will never suffer from flatulence, never be made nervous or old-maidish, never have cholera, diarrhoea, or loss of appetite. Besides, the flavour is simply delicious; no one who has once drunk their cup of tea with this addition will ever drink it without a sprig of Lemon Verbena." Perhaps English tastes are different.

OUR correspondent, Mr. Witherspoon, has written as follows on the CROPS in his district (Chester-le-Street) and on his VINES:—"I find that I have more Pear trees than Pears; the finer varieties are very uncertain in the north. With the

good old Hesse, somewhat of an acclimatised sort, I expect that things will be otherwise and there will be a fair crop. Of Apples and bush fruit, including Strawberries, they are variable; but those who in the north depend upon outside fruit for a livelihood will have none the best of it. The ordinary market gardener is the most dependant man in existence. He gets with his few comforts kicks from every corner. He requires all kinds of weather in season, but unseasonable visitations of either sun, rain, frost, or wind, and the myriads of insect pests are all against him. I may be pardoned for saying a few words on my Vines. I truly believe that I have, if not the healthiest, certainly one of the healthiest, vineries in the world. This I admit is rather a sweeping assertion, but I conscientiously believe the assertion is true. Regarding the crop after cutting out until my heart fails to cut more, I find that I have some twelve hundred bunches left, and whilst only as large as peas, I have them 18 inches long, and there are many when ripe that will weigh nearer a stone than a pound."

SEVERAL NEW ROSES have been exhibited this year, some of them for the first time, in a manner that affords evidence of their intrinsic merit. There were a good sprinkling of excellent blooms of Penelope Mayo at the National, and magnificent examples of it at South Kensington on the 3rd inst., where it was certificated. It is questionable if a finer trio of blooms than those referred to have been staged at any exhibition this year. Penelope Mayo is an improving and very fine Rose. Dr. Hogg, exhibited by Messrs. Paul & Son of Cheshunt at the Alexandra Palace and certificated, is a well-formed symmetrical Rose, a trifle smaller perhaps, but possessing a colour of its own, and is very dark and effective in a stand: it is a very promising Rose. Mrs. Baker has been staged in splendid form by Mr. Cranston; and Mons. E. Y. Teas has well sustained its fame as a valuable acquisition by its fullness, richness, and constancy. Of the yearlings those to be made a note of and ordered are Captain Christy's Earl of Beaconsfield (Messrs. G. Paul & Son), Mr. W. Paul's Countess of Rosebery and Duchess of Bedford, and Mr. Turner's Dr. Sewell and Harrison Weir. No new French Roses of the year have as yet even nearly approached in merit those sterling English varieties.

WE never remember observing the LIME TREES OF LONDON in more exuberant health than during the present year. At the present time they are heavily laden with their greenish yellow flowers, which hang in countless thousands from the axil of almost every leaf. Their appearance is chastely beautiful, and their honey-like fragrance imparts to the trees an additional attraction. Not infrequently the trees are infested with insects, but this year they are singularly clean. The Lime is probably at the present moment the most admired tree in the London parks, and many a villa garden is rendered the more enjoyable by the presence of a fragrant and floriferous specimen. The Lime flourishes well in towns, but unfortunately it is one of the first trees to cast its leaves in the autumn.

A CORRESPONDENT, "W. S. B.," speaks highly of the great decorative value of the ZONAL PELARGONIUM APPLE BLOSSOM, which he says is quite as pretty as its name. He describes the plant as being short-jointed and very floriferous, having large but elegant trusses of flowers, white faintly suffused with pink, precisely of the colour and exactly of the form of blossom of some varieties of Apples. "W. S. B." recommends it highly for cultivation in pots for greenhouse decoration during the summer.

"I OBTAINED," writes a southern amateur, "two NEW FUCHSIAS this spring from Mr. Cannell, both of which are not only very distinct from all other varieties in my possession, but are most valuable for decorative purposes by their free-flowering properties. They are Lord Beaconsfield raised by Mr. John Laing, and Beauty of Trowbridge raised by Mr. Lye. Lord Beaconsfield has much of the old *F. fulgens* blood in it, and is vigorous in habit, the flowers being very large, bright, and produced in great numbers. Beauty of Trowbridge is also of robust yet short-jointed growth, and has flowers of great substance; sepals waxy white, corolla rosy carmine. Both these Fuchsias, I believe, possess merit, and are likely to find favour as popular market or decorative varieties."

ONE of the most interesting of what may be termed toy plants, writes "PATER" is the ARTILLERY PLANT (*Pilea muscosa*). It is, says our correspondent, the most admired by his children and their youthful friends of all the plants in

his greenhouse. When laden with its tiny pink flowers and sprinkled with the syringe the pollen becomes liberated and is dispersed in sharp puffs precisely resembling a miniature battery of artillery. This affords much amusement to the children, and affords interest, too, to those who have long passed the period of boy and girlhood days. This fresh-looking free-growing plant ought to be grown wherever there are children to be trained to admire flowers and to take an interest in their nature and cultivation.

STRAWBERRY PIONEER.

THIS new Strawberry, sent out last year by Messrs. Veitch with the prestige of a first-class certificate from the Royal Horticultural Society, proves so good as to be a real acquisition among early varieties. It is as early as La Marguerite, has handsome conical fruit, highly coloured, firm in texture, richly flavoured, and with a slight acidity that is very refreshing. Much of the fruit has been decidedly above medium size with an occasional very large wedge-shaped fruit. The crop was abundant, and the growth of the plants vigorous and robust. So much pleased am I with it that I intend planting a large bed of it, and also giving it a trial in pots next season.

It is all the more welcome, supplying as it does a real want, for we have hitherto had no really good early Strawberry with large fruit that would travel well. Black Prince, Keens' Seedling, and Vicomtesse Hericart de Thury are all undersized, the latter giving only a few respectable berries amongst a multitude of small ones, and the large fruit of La Marguerite is so tender that everyone must be swathed singly in wadding and be handled most carefully, or it will become bruised and spoil.—FRAGARIA.

REIGATE ROSE SHOW.

THE Reigate Rose Association Committee committed the indiscretion of fixing on the same day with the Manchester National Rose Show. This of itself kept several all-England exhibitors away. Taken together with the earliness of the season it contributed to render the Show somewhat scanty, though the greater part of the Roses actually staged were of good quality. In the all-England amateur class Mr. Brown, gardener to A. J. Waterlow, Esq., was first; Mr. J. Sargent was second with a box but little inferior; Capt. Christy being third; and Mr. Ridout, gardener to A. Haywood, Esq., fourth. A Marie Baumann of magnificent form and size in Capt. Christy's box was much admired, as also a box of twelve Teas, shown by Mr. Brown. This has certainly been a great Marie Baumann year. The number of table decorations shown was, as usual, large and of excellent quality. The challenge cup of the Association, for the best box of twelve Roses, was won by the President, George Baker, Esq. The number of exhibitors was considerably reduced by the unfavourable season.

LANTANAS AND THEIR CULTURE.

LANTANAS are not often seen well grown now-a-days, but are nevertheless among the finest of greenhouse decorative plants. Specimens of 3 to 4 feet in height and as much through, perfect half or rather three-quarter globes, studded with nearly globular trusses of bloom, which are borne in profusion from the axils of the leaves, render them very effective and useful either as a decorative or exhibition plant. The Verbena-like heads of bloom are not only pleasing to look at, but in many varieties a grateful fragrance pervades the flower, and is possessed also by the foliage, which is sufficiently abundant to set off the blooms to advantage. The flowers, too, are in different shades of pink, red, orange, yellow, lilac, and white, a few varieties making a grand display in the greenhouse or conservatory from June onwards, forming a capital succession to Pelargoniums, &c.

Not the least of the merits of these plants is their easy culture. Being deciduous they may be stored away like Fuchsias in winter, not taking up room like plants of an evergreen character. Like the Fuchsia they require to be kept dry in winter, but not so dry as to cause the wood to shrivel; they must also be safe from frost. Started at intervals, commencing with a first batch early in March, cutting back the shoots to within two or three joints of the old wood, and placing the plants in a house (as that of a vinery about to be started) with a temperature of 55° to 50°, sprinkling the plants frequently, they soon start into growth. When they have well broken turn them out of the pots, reducing the ball about a third, and return to the same size of pot, working the soil well in amongst the roots. Sprinkle the plants overhead twice

daily, and shade them if necessary from bright sun for a few days, afterwards expose them fully to light and air, keeping them near the glass. When the roots have possession of the fresh soil transfer to pots 3 to 4 inches larger, potting moderately firm, and drain thoroughly. Syringe the plants twice a day, watering moderately until the roots are working freely in the fresh soil, then copiously, alternating the watering with weak liquid manure.

In the case of a good break it may be necessary to thin the shoots by disbudding, removing the weakest and such as are likely to interfere with the symmetry of the plant, and in young plants not well furnished with shoots stopping may be resorted to at the third or fourth joint. Tying and staking must be attended to early so as to secure well-formed speci-

mens, but the habit of the plant is so good that for general purposes, beyond tying down a few shoots as may be necessary to secure symmetrical heads, nothing of the kind is needed. Plants started in March will bloom in late May or early June, another lot started in April will succeed them, and a third lot grown in houses from which bedding plants have been removed will come-in in July and August, when flowers for the conservatory and greenhouse are not over-plentiful.

Propagation is effected by cuttings of the young growths when from 3 to 4 inches in length, taking them off close to whence they proceed, inserting in sandy loam with a little sandy peat, placing in bottom heat, and shading. This is only necessary for plants struck in spring, which afford by far the best specimens, stopping them at the second joint to induce



Fig. 4.—SPECIMEN LANTANA.

side shoots, and those again in like manner being stopped will lay the foundation of the specimen, annually increasing in size and beauty for a number of years. Cuttings of the growing shoots (always avoid flowering shoots for propagation) will strike freely through the summer in sandy soil in a cold frame kept close and shaded. Three parts of fibrous loam, one part sandy peat, and a part old cow dung or leaf soil with a free admixture of sand, form a suitable compost. It is important that the plants do not want for water, or the leaves will turn yellow and fall off.

The plants are subject to the attacks of the white fly or midge, which upon the first few puffs of tobacco smoke falls to the floor and is comparatively out of harm's way; but before fumigating, the floor, stages, &c., should be thoroughly wetted, avoiding, of course, the foliage of the plants; the insects will then either be drowned or killed.

Lantanas when in flower are more enduring with shade from bright sun, and may be placed outdoors in a sunny situation after flowering, with water only to maintain the foliage from flagging, housing the plants again before frost.

There is no doubt of the plants being fine for bedding, plants

in an advanced state for flowering being planted late in May or early in June, and well attended to for water in dry weather. Young plants struck the previous summer are best for bedding purposes, also for decorative purposes in 5, 6, or 7-inch pots.

A dozen select varieties are *Distinction*, *Dom Calmet*, *Eclat*, *Favorita*, *La Manula*, *Lutea grandiflora*, *Marquis de St. La-porta*, *Mons. Rougier Chauvière*, *Ne Plus Ultra*, *Ninus*, *Princess Louise*, and *Victoire*. There are many others of great merit, including the variety represented in the engraving—*Le Grenadier*, colour orange scarlet, fine trusses.—G. ABBEY.

[The engraving is from a photograph of a plant grown by Mr. Parham, gardener to G. May, Esq., Reading. It was exhibited at the Reading Show, and was the most striking of three plants which won the Veitch memorial medal. It was splendidly cultivated and much admired.—EDS.]

LAWNS AT THE PARIS EXHIBITION.

A VERY interesting feature in connection with the horticultural section of the great Paris Exhibition is the international competition between our leading English and the principal

continental seedsmen for prizes to be awarded for the best lawns produced with grass seeds. Some idea may be formed of the extent when it is stated that the whole of the large area known as the Trocadero, as well as a considerable portion of the outdoor space on the Champ de Mars, has been devoted to this competition. England is represented in the Trocadero by only two houses—*i.e.*, Messrs. James Carter & Co., the Queen's seedsmen of High Holborn, London, and Messrs. Webb of Wordesley; whilst for the Continent the gauntlet is thrown down by the following well-known firms:—Jacqueau, Paul Tollard, De la Laye, Torey Vannier, Chouvet, Thibaut, Vilmorin, Andrieux, et Cie., and Dudony.

The most finished amongst these are the lawns of Messrs. Vilmorin and M. Dudony (No. 1, fig. 5), the latter being the introducer of a special manure, and who is understood to endeavour to show by the application of his specific that

valuable assistance can be rendered to the grass during its growth. This, however, remains to be seen, for although the lawns dressed with this manure are in a very fair condition, they are considered inferior to the fine even turf forming a large plateau on the Champ de Mars under the direction of Messrs. Vilmorin.

It is on the English side, however—*i.e.*, the large space on the left hand of the central dome on the Trocadero, that the lawns are in the finest condition, and it is to the credit of England to record that the only lawns in perfect order on the opening day (May 1st) were those of Messrs. Carter; and it is to be regretted that during the heavy rains, which more or less prevailed at the opening ceremony, the crowds of visitors were allowed by the authorities to scramble over those lawns, treading the smooth surface in some places into an uneven bed of mud, and entirely destroying the fine edges. By

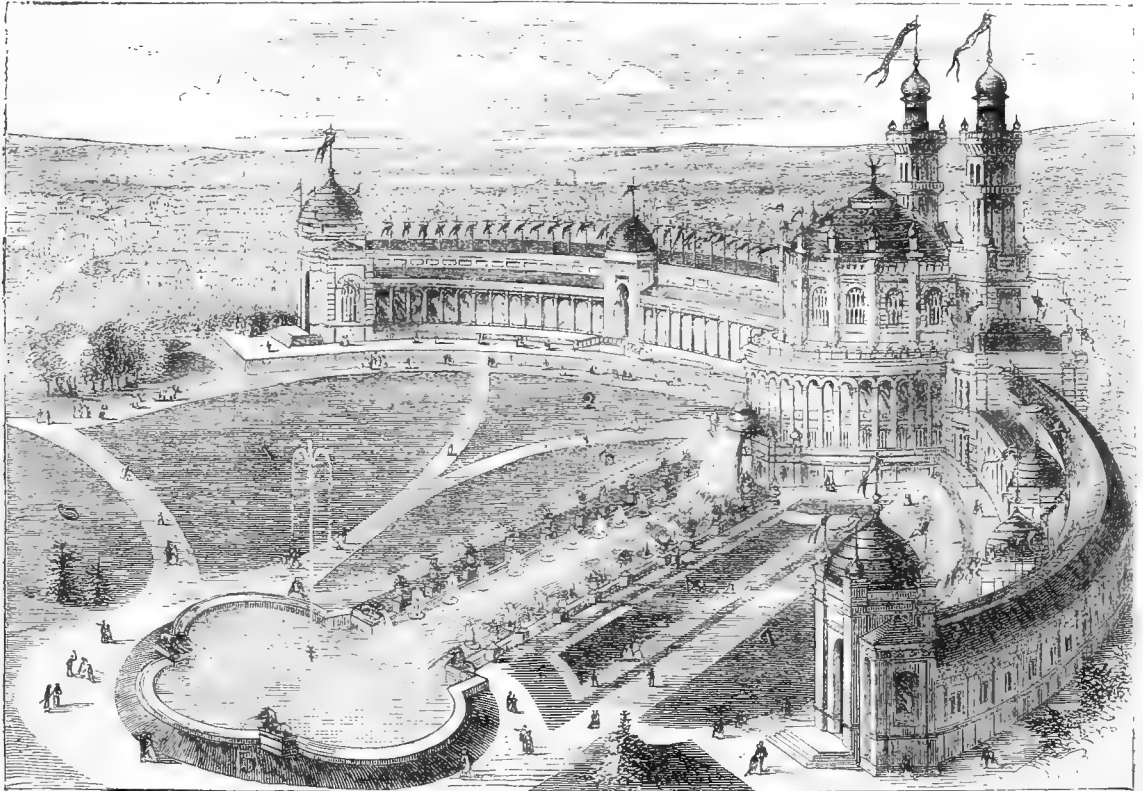


Fig. 5.—LAWNS AT THE PARIS EXHIBITION.

great perseverance this damage has since been considerably repaired. The whole of the three large lawns shown in the illustration and numbered respectively 1, 2, and 3, and comprising the larger portion of the space devoted to England, are sown by Messrs. Carter, the smaller plots (numbered 6) being occupied by Messrs. Webb, whose seeds were sown some time later, so that it is as yet early to criticise them. Messrs. Carter were specially invited by M. Hardy, the indefatigable Director of the French horticultural section, to sow all the remaining spaces on the Trocadero with their seed, including the gardens surrounding the cascades and fountains (Nos. 4 and 5). In addition to this they have also sown by desire of the same authority the whole of the lawns on the front of the Trocadero building approached from the charming suburb of Passy. It is well known that our continental neighbours pride themselves on their rapid process of lawn-making, and it is certainly remarkable when it is remembered that Messrs. Carter's lawns, sown April 8th, were cut for the first time with Ransome's mowers on April 29th, or exactly three weeks from the time of sowing.

It must be understood that the preparation of the land has been identical throughout the entire competition, the difference between the English and French process being in the varieties of seed used and the quality and purity of the samples. It is

also necessary to observe that the cultivation, and in fact the entire control of the lawns, was in the competitors' hands until June 1st, when they were handed over to the French authorities.

The preparation of the land is a very elaborate affair, that on the Trocadero especially so. It will be remembered by those who are familiar with Paris that the Trocadero was a huge hill, presenting an uneven and rocky surface, many hundreds of loads of earth having been used to form an even surface, with a top-dressing of what is called "terreau" by the Parisian gardener, and which appears to be the exhausted beds of manure and soil upon which the market gardeners have grown their salads and similar vegetables. It is, however, a useful dressing for the purpose, especially where the natural soil is poor and not readily worked into the smooth surface so desirable when a fine even sward is required.

One word as to hotel charges. There is little doubt but that some of the large hotels in and near the Boulevards are charging exorbitantly, but there are plenty of good hotels where every comfort can be had at reasonable rates. One of the best of these is the Grand Hôtel du Rhone in the Rue J. J. Rousseau. There you can reside at a fixed rate per day, board and lodging and everything (except wines) included, at from 15 to 20 francs per day (12s. to 16s.). Nearly all the servants as

well as the proprietors speak English, and the house is to be well recommended.

THE HEREFORD ROSE SHOW.

[MR. CAMM prefaced his report with a high expression of gratitude for the kindness shown him at Hereford, but we have not space to spare for its insertion.—EDS.]

ROSARIANS are here treated as not only guests to be welcomed and honoured, but as members of the rosarian brotherhood. The West of England Show has been held at Hereford for, I believe, about fifteen years, and although financially it has had often to struggle for existence, it has never failed to be a great success in all other points. Rosarians from all parts of the country flock to the old border city, nestling as it does in the midst of such picturesque scenery, that it is a positive sin to read a newspaper when approaching it in the train. On the last occasion Roses came from Cheshunt, Slough, Torquay, Exeter, Nottingham, Kingston, and many other places of less note. The Colchester Roses were not on this occasion to the front, Mr. Cant's foreman being ill, and the distance and other reasons no doubt keeping that great rosarian away. Messrs. Keynes also did not put in an appearance, but with these exceptions nearly every other great grower sent Roses.

The open class for seventy-two Roses was very well contested. Messrs. Cranston of King's Acre were, of course, here first. Being in fine bloom at the time and on the spot, and having several hundred thousands to cut from, it would be indeed wonderful if anyone could come and beat them at Hereford. I think I have seen this great firm stage a better seventy-two, and my fellow judge (Mr. Baker of Exeter) agrees with me that the year they showed that marvellous box of twenty-four blooms of Horace Vernet, a record of which will be found in the Journal, was the finest ever staged. Be this, however, as it may, there is no doubt that they showed remarkably well on Wednesday. They had a bloom of Louis Van Houtte which I never saw equalled. Mr. Cranston himself said he had never seen such a bloom before. It was of globular shape, of enormous size, and vivid colouring. His bloom of Xavier Olibo was also the finest I ever saw. Comtesse d'Oxford and Serenye were very fine. Sénateur Vaisse was splendid. He showed also a bloom of that tiny variety Comtesse de Chabillant. But here we had a large bloom of a rather lighter shade than ordinary seen of perfect form. His blooms of Charles Lefebvre, Horace Vernet, and other dark Roses, though of lovely form, were all of lighter shades of colour than usually seen, and Mr. Cranston informs me that all these Roses have come light this year, owing no doubt to the excessive rainfall. Marie Baumann was splendid both here and in a superb box of twenty-four blooms which gained the first prize, and which were quite equal to Messrs. Curtis's stand of the same variety at the Crystal Palace. Annie Wood, Marie Cointet, Elie Morel, Le Havre, François Michelin, and Etienne Levet were all grand. Messrs. Davidson of Whitecross Nurseries, Hereford, showed very finely and were placed second in this class. I have been much struck every time I have visited Hereford by the great improvement this firm is making in showing Roses. Each year they are better than the last, and on this occasion, if their great neighbour had been absent, they would have attracted great attention to their stands. Their best blooms were Marie Baumann, Madame Lacharme, Xavier Olibo, Eugénie Verdier, Madame Georges Schwartz, Etienne Levet (grand), Général Jacqueminot, and Abel Carrière. Mr. W. Lee of Kingston was third.

For forty-eight trebles Messrs. Cranston were first with marvellous good clusters, Mr. Davidson second, and Mr. Grove of Hereford third. For twenty-four singles Messrs. Cranston were again first; Mr. Griffiths of Tillington, an old foreman at King's Acre, second; and Mr. Frettingham of Beeston third.

For the close class of seventy-two (that is, excluding Hereford) Mr. George Paul was first, Mr. Turner of Slough second, and Mr. Frettingham third. Mr. G. Paul's blooms were very fine indeed considering the distance they had come, and so were Mr. Turner's. The trebles and other classes were well filled with the exception of one class, that of eighteen trebles for nurserymen.

We now come to the great amateur contest for the challenge cup given by Messrs. Cranston & Co. for the best thirty-six Roses, to be won twice. This cup was won in 1876 by Mr. Thos. Jowitt of The Old Weir, Hereford, and in 1877 Mr. Baker of Heavitree came in his might to Hereford and carried it off. It was now pretty certain that one or other of these giants would finally win the cup. The interest was very great. Mr. Jowitt perhaps a little weakened his chance by showing at Torquay the day before, where he carried off seven first prizes. Mr. Baker wisely reserved all his strength for the great contest, where he should meet his noted rival on his own ground. In order to be as fresh as possible Mr. Baker followed the plan he has adopted of late years when showing at Hereford. He cut his blooms late the evening before the Show, took them as far as Gloucester by the mail train, and the next morning went on to Hereford, getting there just in time to stage. Mr. Jowitt had about nine hours' more time in his

favour and only a journey of three miles, so that the odds were apparently in favour of the Hereford champion. Close was the contest, severe the fight, and grand the triumph for the west when Mr. Baker in the long run carried the cup off for the last time to Exeter.

The two stands were different in several points. Mr. Jowitt's was more even, while Mr. Baker's had many much finer and larger blooms. Mr. Jowitt's had also more Teas, and his stands were more varied as to colour and the arrangement was a little better, but nothing could come up to the size and grandeur of Mr. Baker's back row with the exception of two Roses. It was freely owned by most rosarians present that Mr. Baker spoilt his box by inserting in his back row a large but coarse bloom of that objectionable variety for exhibition, Madame Charles Wood. His Capitaine Christy also was by the time the public were admitted a little past, and three Roses in the front row were a little undersized. When this has been said nothing remains that can be urged against his stand. His other blooms were perfection. He had a bloom of a Rose little known called Comte de Rainbold, a dark, full, somewhat cupped Rose, which created quite a sensation. Mr. Robert Veitch is one of the very few nurserymen, if not the only one, who possess this Rose, and the rush upon his plants will be very great next autumn. Once more Mr. Baker astonished the company with his blooms of Marie Baumann, Charles Lefebvre, and Marie Rady, and many others too numerous to name here, while his freshness and purity of colour were marvellous considering the distance he had come. Mr. Jowitt's thirty-six were also a great treat. He staged them in one box, and it was a perfect treat to see them. As I have said, a more even lot has seldom been seen. His best bloom was Thomas Mills, while his Comtesse d'Oxford, Louis Van Houtte, Triomphe de Rennes, and other Teas were also very good.

Mr. Bulmer the energetic Secretary was third with, among others, I think the best bloom in the Show, and the only specimen I have seen of it this year. In his back row there was a bloom of Comtesse de Nadaillac which I shall never forget. This lovely Tea Rose is a very bad grower, and I have never yet seen it shown half the size of Mr. Bulmer's. If there had been a fourth prize, or if a consolation prize is eventually given by the Society when they read this report, no doubt I shall win it. Meantime truth compels me to say that your correspondent was left out in the cold.

The other amateur winners in other classes were for twenty-four, Mr. Baker first; Mr. Jowitt and Mr. John Arkwright of Hampton Court equal second. I won't say who was third, but will leave it to the imagination of your readers. For eighteen trebles and for twelve singles Mr. Baker was again first.

The Herefordshire amateurs in their close class showed uncommonly well, particularly Miss Bulmer, and the whole Show was a good one. Mr. George Paul was first for Teas, but I am vain enough to think I ran him very close. For twenty-four Roses of a sort Mr. Cranston staged a marvellously good stand of Marie Baumann which was first, and the other prizes went to the same Rose. Jean Liabaud won the first prize for twelve blooms of one new Rose and again brought Mr. Cranston's name to the front. There was no competition for the Veitch Memorial prize, and Mr. Cranston won Mr. Arkwright's prize for twelve Teas and twelve H.P.'s shown in the same stand. The bouquets and table decorations were very good, and everything connected with the arrangements was not to be surpassed.

The only drawback—the one crumpled Rose leaf which disturbed my comfort, was the band. Fancy, Messrs. Editors, instead of the string Rhine band which used to delight all lovers of music at this Show, twelve or thirteen brazen instruments without a reed or a string to mitigate their ferocity, went blaring and pounding away till they drove every lover of music to distraction, and effectually got rid of me. A militia band at the head of a regiment or in the open air is all very well, but in the Shire Hall, Hereford, it is something too terrible. Mr. John Cranston entertained the principal exhibitors in the most hospitable manner, and few of us will forget the stroll round his nursery in the cool of the evening, or the splendid entertainment he gave us; but above all other things his genial welcome, his unmistakable love for Roses and rosarians, the pleasure with which he greeted us as friends and guests, this will not be forgotten by us as long as the Rose continues to be the queen of flowers. It is with almost a sad heart that I thus bid farewell to the Hereford Rose Show for the year 1878; and were it not for the thought that, all being well, in another twelve months I shall be there again, I should hardly have the courage to sign my name to this letter.—WYLD SAVAGE.

SPIRÆA ARUNCUS.

I HAVE known this plant for fifty-one years, and last year I saw it great perfection at the gardens of A. Fletcher, Esq., Salton Hall, East Salton. I induced the gardener Mr. Barrie to measure it. The plant was 5½ feet high and 18 feet in circumference. There were ninety flower stems on it 18 inches

to 2 feet long. There were four or five plants growing amongst some dwarf shrubs, and it was a treat to see them. It occurs to me this variety would be very suitable for forcing, but for growing in the margin of a shrubbery I know nothing to surpass it. In my opinion it surpasses the shrubby sort *S. acerifolia*.—J. ADDISON, *East Mains, Broxburn, Edinburgh*.

THE ROSE ELECTION.

THE "exhibition" Rose election of 1877 was not altogether a failure, indeed it appears to me to have originated a correspondence on the merits of an exhibition Rose which has permeated the pages of our Journal with the aroma of Roses throughout the damp wintry times and the cheerless spring, until "it is time of Roses" again.

With the consent of our Editors, and strengthened with the experience of the last election, I propose this year to make it again an exhibition election, and I repeat the question for solution.

It will save electors, and it will save myself much time (of which article I have less in stock), and trouble (the stock here being also low), if they would answer the question carefully and as soon as they conveniently can.

Every elector must have taken a prize at the larger exhibitions, or several prizes in local competitions, and if adding the second forty-eight for Mr. Curtis's suggestion, they must have taken a prize for at least forty-eight varieties in a stand.

Name the best forty-eight exhibition Roses according to your experience in your soil. Mark the best twelve of these with a cross, the next best twelve with two crosses, or distinguish these twelve in any simple but clear manner.

Mr. Curtis suggested to me last year trying to arrive at the best ninety-six varieties. Any exhibitor qualified to vote on this will oblige by adding a second forty-eight to the list.

This will entail considerable additional labour. I will try to get out the first forty-eight as early in September as possible, and cannot receive lists for either after the 15th of August.

In the case of nearly similar Roses up to forty-eight varieties, as, for instance, *Lælia* and *Louise Peyronny* equal; *Ferdinand de Lesseps*, *Exposition de Brie*, and *Maurice Bernardin* equal; *Marie Finger* and *Eugénie Verdier* equal; *Mons. Boncenne* and *Baron de Bonstetten* equal; please name only one in the forty-eight varieties, whichever is considered best. The poll will show the position of each, but they will be classed as one Rose.—JOSEPH HINTON, *Warminster*.

NATIONAL ROSE SOCIETY'S PROVINCIAL SHOW.

MANCHESTER, JULY 6TH.

THE National Society may be congratulated most heartily on the success of its first provincial Exhibition, for Manchester has never seen such Roses, and to many it must indeed have been a revelation of the queen of flowers. The local papers are full of praises (and what is more, the Botanical Society is full of money by its venture), pronouncing it "as a whole one of the most successful, as well as one of the most enjoyable ever held at Old Trafford, and that is saying a good deal." I know not how many visitors there were, but the gardens were crowded, and as to the house where the Exhibition was held, it was hopeless to attempt to get near the Roses after the throng commenced to arrive. All this is very encouraging, but it must be recollected that it adds but little to the Society's revenues to hold an Exhibition at which northern growers might compete formed part of its programme, and loyally and faithfully carried it out; but if it is to be repeated there must be a large access of members north of the Trent, for surely if the Society is willing to give of its funds to meet the claims of northern rosarians, they are bound to use their efforts for the welfare of the Society.

It will be seen from the list of awards appended hereto that most of our great growers for sale were present in force. Messrs. Cranston, Cant, Paul, and Prince were there, while Davison of Hereford, Merryweather of Southwell, Frettingham of Nottingham, and Francis & Arthur Dickson of Chester, also entered the lists; while amongst amateurs the well-known names of Jowitt, Hole, and Pochin figure. Mr. Soames, who is coming with strides to the front; Messrs. Davenport, Hand, Brown, and others show that the north has won its share of honours, although we may hope another year that there will be a larger accession of exhibitors. I am writing in the house of a friend whose Roses would, I am convinced, have won honours had not his modesty kept him back. It is worthy of note that an amateur ventured in a stormy night to cross the Channel from Ireland; and although his Roses suffered by the voyage, yet he was enabled to set up a very creditable stand and take a third prize in forty-eights.

In looking through the various stands one found that there are

certain varieties which figure in them all, and that therefore to give a full list of prizewinners would be merely to repeat those given of the Society's Exhibition at the Crystal Palace, and I shall therefore content myself with singling-out a few of the more conspicuous blooms. I think the palm of merit for the premier Rose of the whole Exhibition must be given to the bloom of Reynolds Hole in Mr. Cranston's stand. It was shown well by Mr. Cant and Mr. Wm. Paul. But this bloom was a marvellous one; for form, substance, and colour it left nothing to be desired. Indeed, in looking at the Rose shows of the year so far, it seems to me to be the most remarkable of the season, François Michelon which so astonished us last season being nowhere this year. Another grand bloom was his Duchesse de Morny, magnificent in its outline, and grand in substance and size; then Comtesse de Serenye, Xavier Olibo, The Rev. J. B. M. Camm were also very fine. In Mr. Cant's stand, Reynolds Hole (already noticed), Souvenir d'Elise, Horace Vernet, La Boule d'Or, Niphotos, were very fine; and Messrs. Paul & Son's, which ran Mr. Cant's very close, contained grand specimens of Mrs. Laxton, Reynolds Hole, Marie Baumann, Duke of Edinburgh, Alba Rosea, and other well-known kinds.

Amateurs' stands contained some very excellent flowers. Canon Hole's—Niphotos, Sophia Tropot, Capitaine Christy, and Comtesse de Nadaillac; the Rev. E. N. Pochin's—Lord Macaulay, Duke of Wellington, Alfred Colomb, and Marie Baumann; Mr. Jowitt's—Devoniensis, Général Jacqueminot, and Marie Baumann; Mr. Coddington's—Miss Ingram, Niphotos, Madame Schmidt, Marie Rady, Homère, and Triomphe de Rennes being amongst the most remarkable flowers shown. Mr. Soames's stand of twelve contained some really grand blooms.

Teas and Noisettes were well shown both by nurserymen and amateurs. Amongst the most telling flowers were Devoniensis, Caroline Kuster, Souvenir de Mons. Pernet, La Boule d'Or, Souvenir d'Elise Vardon, Catherine Mermet, Jean Ducher, Comtesse de Nadaillac, Belle Lyonnaise, and Alba Rosea. In Mr. Paul's stand of new Roses Jean Souper, Sultan of Zanzibar, Marguerite Brassac, Mrs. Laxton, and Mons. Fournier were the most remarkable, and were really fine. The three winning stands of Marie Baumann contained some splendid blooms, although the colour in some had flown. Not so Charles Lefebvre, both stands being defective and in many instances showing the eye. The stands of La France were good, but I have seen better. Messrs. W. Paul and Son of Waltham Cross exhibited ten boxes of Roses containing some fine blooms, and also a box of seedlings, to one of which, Countess of Rosebery, a first-class certificate was awarded, the same honour being given to Messrs. Paul & Son of Cheshunt for Mrs. Laxton.

Thus must end my record of the National Society's Show. I should have liked it to be fuller, but after having had to superintend the whole arrangements of the Show on a very hot morning, and then to act as judge, it was very difficult for tired human nature, especially at threescore, to squeeze through a crowd to take notes, and had it not been for a mandate from head quarters which I received at midday I should not have made this; and so I hope the readers of our Journal, gentle or otherwise, will take the will for the deed.

NURSERYMEN.—Seventy-two distinct, single trusses.—First, Messrs. Cranston & Co., Hereford; second, Mr. B. R. Cant, Colchester; third, Messrs. Paul & Son, Cheshunt; fourth, Mr. J. Davison, Hereford; extra, Mr. Henry Frettingham, Nottingham. Forty-eight distinct, three trusses of each.—First, Messrs. Cranston and Co.; equal second, Messrs. Paul & Son, and Mr. B. R. Cant. Twenty-four distinct, three trusses of each.—First Messrs. Cranston and Co.; second, Mr. B. R. Cant; third, Mr. J. Davison. Twenty-four distinct, single trusses.—First, Mr. J. Prince, Oxford; second, Mr. W. Corp, Oxford; third, Mr. H. Merryweather, Southwell. Twelve Teas or Noisettes, distinct, single trusses.—First, Messrs. Paul & Son; second, Mr. B. R. Cant; third, Mr. J. Davison.

AMATEURS.—Forty-eight distinct, single trusses.—First, Rev. Canon Hole, Newark; second, Mr. T. Jowitt, Hereford; third, Mr. D. H. Coddington, Drogheda, Ireland. Thirty-six distinct, single trusses.—First, Rev. E. N. Pochin, Leicester; second, Rev. Canon Hole. Twenty-four distinct, single trusses.—First, Mr. T. Jowitt; second, Rev. E. N. Pochin; third, Rev. Canon Hole; fourth, Mr. J. Mayo, Oxford. Twelve distinct, single trusses.—First, Mr. A. J. Soames, Bourne; second, Mr. J. Lakin, Chipping Norton; third, Mr. J. Davenport, Altrincham; fourth, Mr. W. Hand, Newcastle-under-Lyme. Six distinct, single trusses.—First, Mr. A. J. Soames; second, Mr. J. Lakin; third, Mr. J. Brown, Heaton Mersey. Six distinct, single trusses of district-grown Roses.—First, Mr. J. Brown; second, Mr. W. H. Palfrey, Altrincham; third, Mr. J. Davenport. Twelve Teas or Noisettes, distinct, single trusses.—First, Rev. Canon Hole; second, Mr. T. Jowitt; third, Rev. E. N. Pochin.

OPEN CLASSES.—Twelve new Roses, distinct, single trusses, must not have been in commerce before 1875.—First, Messrs. Paul and Son; second, Mr. J. Davison; third, Mr. H. Frettingham. Twelve single trusses of Marie Baumann.—First, Messrs. Cranston and Co., Hereford; second, Messrs. Paul & Son; third, Mr. B. R. Cant. Twelve single trusses of Charles Lefebvre.—First, Messrs.

Paul & Son; second, Messrs. Cranston & Co. Twelve single trusses of La France.—First, Messrs. Paul & Son; second, Mr. G. Davison; third, Mr. H. Frettingham. Prizes were offered for twelve single trusses of Marechal Niel, but there were no entries. Messrs. W. Paul & Son were highly commended for a collection of ten boxes of Roses.

First-class certificates were awarded to Messrs. W. Paul & Son for Rose Countess of Rosebery, and Messrs. Paul & Son, Cheshunt, for Rose Mrs. Laxton.—D., Deal.

ORIGIN OF THE RIBSTON PIPPIN APPLE.

WE have received the following from an esteemed correspondent:—

"On the 1st September, 1693, in the fifth year of King William and Queen Mary, Robert Clemesha of Goldsborough, brought his son Robert to be bound to the Honourable Robert Byerley of Mettridge Grange, in the county of Durham, as a gardener. His master covenants to find him sufficient meat, drink, clothes, lodging, and washing suitable for an apprentice. When bound he signs with a cross (x), not being able to write. The Honourable Robert Byerley had land near Goldsborough I know from receipts of rent in my possession. Perhaps Clemesha lived at Ribston Park, in after life was chief gardener there, and had given him the pip of an Apple brought from France which he was desired to cultivate. This he succeeded in doing, and the fruit was much approved, and takes the name of the Ribston Pippin from the locality where it was first raised. This tree died in 1849. The indenture in my possession was ready to drop to pieces, so I had it glued to cartridge paper and have presented it to the Hull Philosophical Society, in whose museum it is now deposited."

We are very glad to be able to publish this information, and we print also the following for comparison from the last edition of Dr. Hogg's "Fruit Manual."

"There is no Apple in this country which is more generally cultivated than the Ribston Pippin. It did not become generally known till the end of the last century, and it is not mentioned in any of the editions of Miller's Dictionary or by any other author of that period, neither was it grown in the Brompton Park Nursery in 1770. . . . The original tree was first discovered growing in the garden at Ribston Hall near Knaresborough, but how, when, or by what means it came there has not been satisfactorily ascertained. One account states that about the year 1688 some Apple pips were brought from Bouen and sown at Ribston Hall near Knaresborough; the trees then produced from them were planted in the park, and one turned out to be the variety in question. The original tree stood till 1810, when it was blown down by a violent gale of wind. It was afterwards supported by stakes in a horizontal position, and continued to produce fruit till it lingered and died in 1835. Since then a young shoot has been produced about 4 inches below the surface of the ground, which, with proper care, may become a tree, and thereby preserve the original of this favourite old dessert Apple. The gardener at Ribston Hall, by whom this Apple was raised, was the father of Lowe, who during the last century was the fruit-tree nurseryman at Hampton Wick."

THE HORSHAM ROSE SHOW.

AMONGST the many votaries of the queen of flowers Horsham holds a forward place, and her two-years-old Association bids fair to be very soon a very leading one in south-east England, not least through the liberal step taken by the Committee of throwing open to all England a twenty-four, twelve, and twelve-of-the same-kind class. On July 2nd the second annual Show was held in the Assembly Rooms, a place admirably adapted for the number of Roses requiring to be staged, and the result was a show of very considerable merit. Not only in the all-England class, but also amongst the members' boxes, fine Roses were exhibited. A magnificent triplet box of Mr. W. G. Sharp of Birchen Bridge was particularly noticeable. Finer blooms of Marie Rady and Annie Wood it is scarcely possible to imagine, immense size being attained without loss of colour or coarseness. In the all-England classes the first prize for twenty-four was taken by Mr. Prince of Oxford, the second by Mr. Ridout, gardener to J. B. Heywood, Esq., of Reigate; Mr. Piper of the Uckfield Nurseries being third, and J. H. Pemberton, Esq., fourth. In the twelve of any kind Messrs. Prince and Piper were an easy first and second with very large and fine blooms, the Rev. Alan Cheadle being third, and J. Graveley, Esq., Cowfold, fourth. Mr. Prince was also first with a magnificent dozen of Capitaine Christy, the Rev. R. Cox-Hales being second with a very even box of Marie Rady. A fine box of Paul

Verdier was also shown. This old Rose, though not a perpetual, is worthy of more attention than it receives.

The arrangements of the Hon. Secretary, W. H. Saddler, Esq., were very complete and effective, but the unfavourable weather prevented the attendance which might have been anticipated, and it is to be feared operated unfavourably on the funds of the Society. This Society adopts the somewhat novel plan of letting all-England amateurs and nurserymen exhibit together. The former, of course, are somewhat overweighted; the result is, however, a large average of high-class flowers.—A. C.

TORENIAS ASIATICA AND FOURNIERI.

TORENIA ASIATICA is one of the most distinct and elegant of plants for the decoration of stoves in spring and greenhouses in summer. As a basket plant it has few superiors, its elegant pendent growth and richly coloured flowers rendering it singularly attractive. As a prize plant for boxes and elevated stages, also for placing on isolated brackets, it is very suitable. It is further well adapted for cultivation in pots, its growth being loosely trained round sticks or wire trellises. It, however, shows to the greatest advantage when grown in baskets. Its cultivation is extremely easy, but its preservation through the winter is often somewhat difficult. Cuttings should be struck in late summer, and when rooted be potted in a rough compost such as nodules of peat, a little very turfy loam, and lumps of charcoal in equal proportions, the plants being wintered in small pots on the shelf of a light and well-heated stove. When fairly growing in the spring richer soil may be afforded them, and liberal supplies of water; they will then grow luxuriantly and flower with great freedom. Cuttings struck now will make attractive plants for flowering in late autumn and early winter. This is a good old plant somewhat too much neglected.

T. FOURNIERI.—This is a most valuable acquisition for which British gardeners are indebted to the celebrated French firm of Vilmorin, who sent plants or seeds to Chiswick. These were well grown and flowered by Mr. Barron, and a first-class certificate was voted to the plant last year by the Floral Committee of the Royal Horticultural Society. This year plants have been again exhibited at South Kensington by Mr. Barron in a manner which stamps this distinct Torenia as a plant of high excellence for summer decorative purposes.

The plant is quite dissimilar in habit from T. asiatica, which is a trailer, the new introduction being suffrutescent, and is very dwarf and stubby, especially when grown cool—that is, not drawn in a high stove temperature. It flowers with great freedom and is richer in colour than its well-known prototype, inasmuch as each rich purplish violet flower has the addition of a rich orange blotch. The plants exhibited last week did not greatly exceed 6 inches in height, and they were a complete mass of rich flowers set in bright green foliage. The sprays had no stakes or other supports, the short-jointed growth being sufficiently strong to retain their upright position and sustain the flowers without any extraneous aid.

The plants referred to were grown from seed saved at Chiswick last year. It was sown in the spring, and the plants have been grown, after they were fairly established, in an unheated house. They will no doubt flourish admirably in a cold frame during the summer months. For front rows in greenhouses and conservatories this Torenia is eminently suited. In the colour of its flowers it is distinct from all other plants; indeed it combines richness with elegance in a remarkable manner.

All nurserymen should obtain a supply of seed of this beautiful summer-flowering greenhouse annual, and all gardeners should order a packet next spring. If they grow the plants as well as those which have been grown at Chiswick, and this they may do with ordinary care, they will have good reason to be satisfied with what is one of the most charming of the "floral simplicities" of recent introduction. Torenia Fournieri is sure to become popular, and the sooner the better.—J. WRIGHT.

WILKINSON'S REGISTERED PEA TRAINERS.

WHEN travelling through the southern parts of Lancashire about eleven months ago I had the good fortune to visit a well-kept garden belonging to Captain J. H. Birley, called Brookside, in the village of Newton-le-Willows, three minutes' walk from the Newton Bridge station of the London and North-Western Railway. While accompanying the gardener round this snug little spot I saw a novelty which especi-

ally took my attention. It was a row of Peas, which instead of a row of pea sticks appeared to be supported by two rows of espaliers, but which afterwards proved to be Wilkinson's registered pea trainers. The row seemed so neat and tidy that I was induced to take a good look at what I thought must prove a benefit to gardeners who have a difficulty in procuring pea sticks. So simple is this arrangement that a child might understand it. The strainers for the wire are so small that they can hardly be detected a few yards off, and with anything like ordinary care they will last twenty years.—S. W. S.

NOTES ON VILLA AND SUBURBAN GARDENING.

KITCHEN GARDEN.—After the recent heavy rains there is no kind of soil that will not be benefited by being stirred with a hoe. It is a most important operation for the well-being of every crop, and for killing the myriads of seedling weeds that so frequently put in an appearance at this period of the year. As soon as Peas have ceased bearing clear them off the ground and replant the vacant space with Broccoli, Brussels Sprouts, Cabbage, or anything else of the Brassica tribe that will be required for winter supply. Dig Potatoes at present as they are wanted, for while unripe they are best dug fresh for cooking every day. Clear all loose haulm away and level the ground as the work of digging proceeds. This should also have another crop planted on it to fill-up close as the Potatoes are dug.

The main crop of Celery must now be planted in well-manured trenches as previously advised. Where Spinach is in much request a sowing must be made very frequently, as at this season of the year it will not remain long before running into a flowering state. A sowing of Coleworts will be found useful to succeed those sown last month. Cauliflowers as they are cut should be pulled up by the roots, and the old stumps should be thrown into the refuse heap to decay. It is too often the case that if left on the ground both these and Cabbage leaves emit a most disagreeable smell. Make further sowings of Paris White Cos Lettuce, and give plenty of water to advancing crops. Frequent sowing, watering, and hoeing constitute the grand secret in procuring crisp and well-grown Lettuce. The round Cabbage varieties of Lettuce are sometimes required, especially with the chief of the cooking department. The most useful of all is undoubtedly All the Year Round. We have now for nearly a dozen years grown this Lettuce, and find our old friend as constant and true as ever.

The present is most favourable for making new plantations of Strawberries, and perhaps after all the most economical way is to layer the plants in pots as if prepared for forcing. Procure some 60-size pots, fill them with soil of a light sandy nature, place the runner on the top of the soil in these pots, and either pin with a peg or lay a moderate-size stone on the rhizome of the runner, which will be sufficient to keep it in its place until it has emitted roots. As soon as the small roots have filled the pots the plants should be replanted in a deeply dug and richly manured piece of ground. Many cultivators plant them on ground which has previously been occupied with Potatoes. Plant them 2 feet between the rows and 18 inches from plant to plant, and if established in this way early a very fair crop of the largest-sized fruit will be produced next season. There are also other methods of procuring runners which will not entail as much labour as the first one, such as allowing them to root around the parent plant, and subsequently lifting them with a fork and planting as before advised. Some cultivators plant them much closer than is here advised, and after the first year lift every other plant. Sir Joseph Paxton and President are yet favourite kinds with many, and are most prolific bearers. James Veitch, Lucas, and Her Majesty attain to a very large size, and are very good in quality. After planting should dry weather set in it will be necessary to give plenty of water in order that the plants emit roots deep into the ground and make good plump crowns by the autumn.

In the flower garden and pleasure ground there are yet many little requisites to be completed before we can feel that we may have a season of rest. Rhododendrons, Kalmias, and other American plants which have gone out of bloom require to have all the seed pods picked off. This, no doubt, is more important than it at first sight would appear, inasmuch as allowing them to remain not only gives an unsightly appearance to the shrubs, but it has the effect of seriously impairing the production of bloom for next year. Hedges of Yew, Laurel, Holly, or Privet, &c., now require clipping. The exuberant growth made will be the means of filling-up weak or hollow places. Where such is the case do not cut so close as where the hedge is matured. When the hedge is finished it should be quite level and of one continuous height. Holly, Yew, Thorn, or Privet can be cut with a pair of garden shears, but Laurel is best cut with a pruning knife, as the leaves are large and are apt to be cut in half with the shears. In quite young hedges and which have not yet grown nearly to the required height we do not advise close clipping, only merely stopping any irregularities both on the sides and tops. We have observed hedges, particularly Holly, which have had yearly merely a judicious stopping and training make good impenetrable

hedges in eight or ten years, whereas hedges that have been close shaven yearly have not been nearly so good in the same time.

Flower beds require the edges cutting neatly and the hoe lightly passed between the plants. All decayed flowers must be picked off, and all plants of a straggling habit should be regulated and pegged out in order that in a very short time the flower garden may be at its gayest, and we may reap the reward of our labours.

Roses have as a rule, considering the many disadvantages they have had to contend against, been particularly good. Heavy thunderstorms followed by a few days of real tropical weather have made very short work of all our cut-back plants. The supply has been abundant, and the new growths formed are indeed very promising for autumn supply. The light Roses have never perhaps been seen in better form. Capitaine Christy, Souvenir d'Elise, and numerous others have been seen in their finest condition, but we hope to have more to note on their qualities. Briar and other stocks are ready for budding, which may be performed now at any time at convenience; but as at present it appears there will be a difficulty in procuring buds to insert, as many varieties are making their new growths. Having your Briar stocks in readiness choose a plump shoot on which the leaves are large and perfect, and on which the side buds have not yet begun to grow. Make an incision on the shoot in which it is intended to insert the bud, using a cross cut in the form of a letter T, bind over the bud with some cotton or soft bast, and in a few weeks it will be seen that the shoot is getting firm under the tie, and before it begins to swell the ties must be cut.

WORK FOR THE WEEK.

KITCHEN GARDEN.

MAKE a sowing of Cabbage for use in spring. Hill's Incomparable, Wheeler's Imperial, Carter's Heartwell, and Wheeler's Cocoa Nut are the best for this sowing. In the south and warm localities sowing should be deferred until the 20th to 24th of this month, but in cold localities sow forthwith. They form an excellent succeeding crop to Onions. The seed should be sown rather thinly in not over-rich soil, and when the plants have a leaf or two in addition to the seed leaves prick them off 3 to 4 inches apart to keep the plants sturdy, transplanting finally early in September. A sowing may also be made of the Tripoli section of Onions, particularly for drawing early in spring, for which purpose White Lisbon is admirably adapted, being very hardy and mild in flavour. Giant Rocco, Giant Madeira, White Italian, and Neapolitan Marzaglio are fine sorts. The ground should be in good heart, especially if large bulbs are required. Sow the seed in rows a foot apart. Except in cold localities and for early use sowing should be deferred until the early part of next month. A last sowing of French Beans should be made upon a warm border. Negro Long-podded, from its enduring cold and wet better than most others, is admirably suited for this sowing. Sow also a moderate breadth of Peas of the early kinds, such as William I. and First-and-Best. If the autumn be mild they afford acceptable crops. Do not omit sowing a good breadth of Turnips—Snowball, White Stone or Six-weeks, and Golden Ball—for use in late summer and autumn. To preserve the seedlings from the ravages of the Turnip fly, dust them during the early morning with quicklime. Get out a good breadth of Cauliflower for use in early autumn. This is also the best time for planting the main crops of Broccoli, it being advisable in very rich soils to plant without digging the ground, merely pointing it over lightly with a fork to arrest the growth of weeds; in loose soils hoeing will be sufficient. Plant in rows 3 feet apart and 2 feet asunder in the rows. Continue to plant out the different descriptions of Greens for winter and spring use, the main crops of which should not longer be delayed. Plant out the late crop of Celery as soon as possible, selecting well-drained ground. Sow a good breadth of Lettuce—Hicks' Hardy White Cos, Bath Cos Sugarloaf, All the Year Round, and Neapolitan Cabbage Lettuces—for late summer and early autumn supply. Maintain the supply of Radishes by sowings as required to meet the demand, also Spinach. Do not neglect the watering of Peas, Runner and Dwarf Kidney Beans, also Cauliflower, pouring the water along both sides of the rows, affording if possible liquid manure, and then mulch the surface. It is the only way to insure a succession of tender vegetables in hot weather. Attend well to the watering of Vegetable Marrows, ridge Cucumbers, and Tomatoes, keeping the latter, whether against walls or trained to stakes, well stopped; and when a sufficiency of fruit is set stop the leading shoots, not wasting the energies of the plant in needless growths, admitting air and light also to the fruit.

HARDY FRUIT GARDEN.

Strawberries.—Runners that have been layered in pots for forcing and planting purposes must be induced by attentive watering to fill the pots with roots speedily. If they have not yet been layered lose no time in doing so. The first runners are the strongest and best, and being rooted early time is afforded them to become well established and form good crowns. Plant the runners out as soon as the roots protrude from the pots, firm-

ing the soil well about the ball and giving a good watering. Those for potting stand in a shady place for a few days, then pot them into the fruiting pots. Six-inch are sufficiently large for those required for early forcing, and 7-inch for second early and late sorts—i.e., those of robust habit, such as Sir Joseph Paxton, President, &c. The pots must be clean, placing one large crock over the hole, about three or four of lesser size, and over these a few half-inch bones, the drainage altogether being about an inch or little more. Turfy loam rather strong, adding a tenth of buffalo horn manure and a twentieth of bone dust, well mixed together but not sifted, forms an admirable compost, which should be moderately dry when used. If used wet it will shrink after potting, leaving the sides of the pot. Place the rougher parts of the compost in the pot first, and pot very firmly, and so that the base of the crown is about half an inch below the rim. Stand the pots upon a hard bottom in an open sunny situation, with sufficient space between each to allow for the full exposure of the foliage. Water as required, and overhead for a few days after potting, and when the roots are working freely in the fresh soil copious supplies will be needed, not allowing the foliage to flag for want of this essential element. Remove all runners as they appear. Plants that have been forced are excellent for forming a plantation out of doors, and should be at once planted if not already done, making the soil firm about the balls, watering liberally until established. Plants that have been fruited in pots never fail to produce good crops during the following season, often two seasons, when they are no longer profitable, and should be succeeded by more recently formed plantations.

Vines trained to walls in the open air should be kept closely nailed-in, the shoots well stopped, laterals kept very thin, stopping them at the first leaf beyond the bunch, and subsequent growths keep well pinched at each leaf as it is produced. Avoid overcrowding, training-in no more shoots than can have full exposure to light and air. This is necessary to afford any increased warmth the wall may give to the advantage of the fruit and wood in ripening. Extensions should be trained-in thinly with a view to thorough ripening.

Do not allow the shoots of Figs against walls to become overcrowded, it results only in unfruitfulness and prevents the fruit from attaining the size and quality it would otherwise attain. Stop the shoots at the sixth leaf and keep them secured to the wall, training-in extension shoots without stopping. Continue to attend to wall fruit trees in stopping or the removal of forelight and superfluous shoots, and the nailing or tying-in of the young shoots required for extension or for filling up space; and in the case of the Peach, Nectarine, and Morello Cherry shoots for next year's bearing. Some outdoor fruits are approaching ripening, and should be protected by nets from the attacks of birds.

FRUIT HOUSES.

Vines.—It is hardly possible in forcing Vines to escape early attacks of red spider; more especially is this the case when the Grapes are kept for any length of time upon the Vines after being ripe. On account of this liability of Vines to red spider we do not advise large houses with a motley assemblage of Vines for forcing, but houses only of such size as will admit of a supply of Grapes for the establishment for a period of not more than six to eight weeks. This admits of the foliage being afterwards cleansed with water from the syringe or engine; but with a house having Frontignans, Sweetwater, and Hamburgh Grapes ripe in May, Muscats in June, and late sorts in July, the dry warm air essential to the ripening of early kinds will cause red spider to increase upon the foliage of the Muscats and other late sorts before they are ripe. This is most disastrous to present and future crops of Grapes. Instead of having a mixed collection of Grapes that started in December to the new year will afford fruit from May to August, we would divide the house into two or three compartments, so that the respective kinds may have secured to them their proper treatment. In case of an attack of red spider paint the hot-water pipes with sulphur, heating them to near the boiling point. It will kill the spider, and often causes a brown spot upon the skin of Muscat and Frontignan Grapes; sulphur, therefore, applied to heated surfaces should be done with great care.

Muscats require to be ripened off with fire heat (indeed all Grapes have a superior flavour and finish when ripened off in rather dry warm air), for under no other conditions will they attain to that golden hue characteristic of richly vinous flavour. The temperature where they are ripening should be 75° to 70° by night, and 85° to 90° or 95° by day, with abundance of air. Muscats of all Grapes require very plentiful supplies of water when swelling the fruit. No Grapes can be overdone with water at the roots after the leaves are full-sized until the fruit is ripe, the border having efficient drainage, therefore attend well to the watering of inside borders, and outside also in dry weather. Keep the laterals well stopped, except in the case of weakly Vines, when they may be allowed to extend, provided the principal leaves are not crowded thereby, and in the case of young Vines a free growth of the laterals may be allowed, as it tends to root-formation and to increase the vigour of the canes.

Peaches and Nectarines.—To keep trees forced year after year in a healthy fruitful state requires considerable exactitude in the

management of the trees, not so much when the fruit is swelling and up to its arriving at maturity as after the crop is gathered. The house should then be thoroughly cleansed of insects, fumigating against thrips if any, and frequently washing the foliage with the syringe or garden engine, sparing no pains to keep the foliage clean and healthy as long as possible. The borders must be well supplied with water, the ventilation very liberal, and if the roof lights are moveable remove them altogether, which will afford the foliage the influence of Nature's refreshing dew and rains. Remove all shoots rendered useless by the removal of the fruit, keeping all gross shoots, as also side shoots, pinched or stopped to one leaf or joint, so as to equalise the sap and admit of sun and air having free access to the principal foliage. If the fruit come in more quickly than is required it may be retarded by a slight shading of tiffany or other light material in the hottest part of the day. In the latest houses where the fruit is stoning strict attention must be given to watering, and fruit taking the second swelling will be benefited by copious waterings with weak liquid manure, or, what is better, by having the borders mulched with stable manure, which attracts the roots to the surface. Attend to tying-in the shoots, stopping any laterals to one joint, and keeping the trees well syringed morning and evening. Houses without artificial heat should have ventilation early and be closed early, so as to husband the sun heat.

PLANT HOUSES.

Greenhouse.—Zonal Pelargoniums for winter flowering should have attention in shifting into larger pots, presuming that cuttings or young stock were inserted as before advised. The chief point to aim at is vigorous plants well furnished for their size, keeping off all trusses of bloom as they show, stopping the plants so as to keep them in compact form. They should have 6-inch pots, be firmly potted in good turfy loam with about a fifth of well-decayed manure and a sixth of sand. They may be placed on ashes outdoors in the full sun, taking care that they do not root through the pots, and they must be well supplied with water. Vesuvius is still one of the best, also Nyanza, Jealousy, Fire King, Sir Charles Napier, and Malcolm in scarlets; Lucy Bosworth, pink; Irene, purple magenta; Heather Bell, lilac pink; Seraph, salmon pink; and Madame Vaucher with White Clipper as whites. Of doubles—Wonderful and Dolabel in scarlets; Charles Vogt, pink; Madame Lemoine, rose; Mont Blanc and Edelweiss of whites.

Chrysanthemums when fairly rooted in the blooming pots may have liquid manure at every other watering, of which they must never need a supply without its being given, as if the plants want for water the foliage will suffer. Attend to tying out and pegging the shoots as they advance in growth. If aphids attack them dust in the evening with tobacco powder, and syringe well the following morning. If mildew is present dust with flowers of sulphur.

Roses in pots should have every encouragement to make a good growth, plunging the pots in ashes in an open situation but sheltered from winds, allowing each plant plenty of room, so that the wood may be thoroughly matured. If the plants are in small pots shift them into larger, topdress with loam and cow dung in equal parts, with a "dash" of bone dust to those that have been forced, and water with liquid manure at every alternate watering, not allowing them to suffer for want of that element. Syringe to keep down red spider, dust with tobacco powder against aphids, applying it at night and washing off the following morning, and use sulphur freely if mildew appear.

Cactuses.—Place the plants outdoors in front of a south wall on a hard bottom, and water them as required. Mesembryanthemums are best placed outside at this season; they, with Echeverias, are the better for a little weak manure water. Echeverias retusa and fulgens should have encouragement, keeping them well supplied with water and weak liquid manure, shifting the plants into larger pots if required. They are fine for winter flowering.

Azaleas.—Plants that flowered late should have every encouragement afforded them to make growth, keeping them rather close, and supply them with moisture both in the atmosphere and at the roots, affording no more shade than will prevent scorching in bright weather, for the more light the leaves are exposed to the stouter they will be, and the more mature will be the wood and buds. Keep red spider under by syringing, which will also go a long way to keep down thrips, but they can only be fully eradicated by syringing the under side of the leaves with tobacco water not too strong; or fumigation may be resorted to, doing it very carefully, as the foliage is easily injured. Plants that have set their buds should be kept in a cool well ventilated house with all the light possible, the fierce rays of the sun broken in the hottest part of the day by a slight shade, or a house with an east aspect will be a suitable structure, requiring no shading.

Heaths.—Early-flowering kinds will since flowering have made good growth, and may in warm localities be placed outdoors to ripen the wood, but in cold northerly districts they are best kept under glass, having very liberal ventilation and plenty of light. Those placed outdoors should, if the weather be bright, be placed in a shady position for a few days, such as the north side of a wall, or have a temporary screen of tiffany erected over them, as if the days be hot when they are first placed outdoors the leaves will be browned. Young plants of Heaths that were potted in

spring will be free in growth, requiring attention in stopping and training. The strong growths should be tied down or out, and the weaker ones allowed to grow upright, stopping the strong shoots so as to induce well-furnished plants. Heaths having the roots close to the sides of the pots must have some canvas or other material placed on the sun side of the pots when they are placed outdoors to preserve the roots from injury.

Withhold water from Pelargoniums past flowering, keeping them cool and airy. Cut down any plants required for early bloom, and keep them somewhat dry until they break into fresh growth. Insert cuttings, which strike freely in a close frame shaded from bright sun. Pot young plants of forcing Pinks, such as Mrs. Moore, Lady Blanche, Lord Lyons, Rubens, Newmarket, Anne Boleyn, immediately the pipings are well rooted, and grow them on, placing in frames until established, and then plunge them in ashes outdoors in an open situation, duly supplying them with water. Tree Carnations for winter blooming keep well supplied with water and liquid manure; attend also to the tying-out of the growths. Sow herbaceous Calceolaria seed in pots or pans half filled with drainage; over that the siftings of the soil, turfy loam with a third of leaf soil or old cow dung, surfacing with very fine soil, half of which should be silver sand, making even; water through a fine rose and afterwards sow the seed carefully, sprinkling very lightly with silver sand. Place the seed pan in open ground in a shady situation, covering it with a handlight and keeping it close. No sun reaching the handlight water will seldom be required, but the surface must be kept constantly moist, applying the water through a very fine rose.

Seed of Intermediate Stock (East Lothian in scarlet, purple, and white are splendid) should now be sown in light rich soil in the open ground, shading until the seedlings appear and keeping moist. Pot in September, growing-on in frames through the winter.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

ADDRESS (C. C. A., Sussex).—Esdaile & Co., Wenlock Basin, Regent's Canal, City Road.

VINE LEAVES (G. McG.).—They are not diseased. The brown spots are the elevations that were produced by excessive vigour now drying up.

MATURING THE GROWTH OF PELARGONIUMS (W. J. M.).—The system to which you refer is adopted by such celebrated cultivators as Mr. Turner and Mr. James, indeed by all who grow the plants successfully. After the plants are cut down and have made a little fresh growth the whole of the old soil is shaken out, and the plants are divested of the withered roots made during the past season of growth; they are then potted in smaller pots than before, and fresh roots are emitted freely, and speedily fill the pots with roots. By no other means can such grand specimens be produced in such small pots. The fact of your plants dying is not the fault of the practice you criticise adversely, but your own fault in not carrying it out properly. We have grown thousands of plants on what you call the "desiccating system," and have certainly not lost one in a thousand. You "desiccated" your plants too much, and perhaps permitted insects to aid you in the finishing-off process.

GRAPES SHRIVELLED (Old Subscriber).—The evil is attributable to faulty ventilation, especially by air not being given sufficiently early in the morning. Leave the top ventilators open about an inch all night, and increase the ventilation immediately the temperature of the house commences rising in the morning by sun heat.

ROSES (R. Baxter).—The varieties are far too numerous to be identified from single blooms. (Constant Reader).—There are some species which require the protection of a greenhouse. Whether yours were of those species we cannot tell without more particulars.

DESTROYING WOODLICE (Baltimore).—There are various ways of destroying these pests, the most wholesale plan being to place some pieces of boiled potatoes near to the plants they infest, and cover with a little hay, and in the morning pour boiling water over the hay, so that the baits must be laid where no injury will accrue to the plants or their roots by the scalding water. Another plan is to wrap a boiled potato in a little hay very lightly, and place in a flower pot laid on its side near to where the woodlice congregate or commit their depredations, and the following morning shake the pests from the hay in which they will be secreted about the bait into a bucket of boiling water. Repeat for a time, and the pests will be reduced so as to do very little injury. In frames, pits, and houses much help is afforded by toads, they devouring great numbers; but they are not much use in houses having the plants upon shelves and stages to which they have not access.

ROSE CULTURE (Novice).—Mr. Reynolds Hole's "Book about Roses" would suit you.

INSECTS ON VERBENAS (Rus in Urbe).—They do not cause the disease, they feed on the decayed matter produced by the disease.

NAMES OF PLANTS (Clough).—It is *Gladiolus racemosus*. (C. P.).—We cannot read your *nom de plume*. *Phytolacca decandra*. (J. R. L.).—1, *Doronicum* sp.; 2, *Thalictrum aquilegifolium*; 3, *Centaurea montana*; 4, *Ran-*

unculus aconitifolius; 5, *Stanactis purpurea*; 6, *Campanula persicifolia*. (C. S.).—*Armeria latifolia*. (Jean).—1, *Iberis amara*; 2, *Campanula rapunculoides*; 3, *Veronica spicata*. (J. G.).—2, *Lonicera Caprifolium*; 3, *Tradescantia virginica*; 4, *Clematis integrifolia*; 5, *Spiræa salicifolia*? (G. N. V.).—All the same species, *Spiræa filipendula*.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

MEETING OF THE ROYAL COUNTIES (HANTS & BERKS) AGRICULTURAL SOCIETY AT SOUTHAMPTON.

THIS Meeting has been held during beautiful weather and was a great success, financially to the Society, and practically to those who attended with the view of ascertaining the value of lessons which such meetings ought to teach, both as regards the latest improvements in the breed of cattle and live animals as well as that of the newest and most economical designs for agricultural implements and other appliances available for the home farm. We intend our remarks to apply on the present occasion to the live stock only, leaving the implements, &c., as a subject for a future article. We will take the stock in rotation as they stand in the Society's catalogue, and any criticisms which we may introduce will be based upon our own experience. The only object we have in view is to bring under notice of the managers of home farms, and incidentally to agriculturists generally, that which we think may tend to the improvement and practical economy of stock farming.

In referring to the stock classes we shall not weary our readers by detailing the names of the whole of the exhibitors, our object being to refer only to those who have by obtaining certain prizes enlisted our attention to certain points in the breed of animals advantageous to the managers of the home farm and gentlemen interested in agricultural pursuits.

Hampshire or West-country Downs head the list of prizes. Class 1, for the best shearling ram, first prize, Mr. A. Morrison, Fonthill House, Tisbury, Wilts; second prize, Mr. R. Coles, Warminster, Wilts. The sheep shown by Mr. Morrison in this class is so different in breed compared with second-prize sheep that we may well say there is no uniformity of type or style in these Hampshires and West-country Down sheep. The first prize is awarded to a sheep which is extremely fat, which was, no doubt, very much in its favour as regards its general outline when run out of the pens to compare with others. We therefore make no doubt it would be advisable if the Judges could divest themselves of the fatness of the stock exhibited; but the variation of type being great we can quite understand the difference of opinion which we heard expressed as to the award in this case. As far as our opinion is concerned we hold that the beau ideal of a West-country or Hampshire Down sheep is the type and style of those exhibited by the late Mr. Humphrey of Oak Ash, Chaddleworth, Berks, at the meetings of the Royal Agricultural Society at Salisbury 1857, Chester 1858, and Warwick 1859. On each of these occasions we acted as one of the Judges of sheep in the class of short-woolled sheep not South Downs, and upon each occasion Mr. Humphrey received nearly all the principal prizes, and we believe that this blood has done more to improve the Hampshire and West-country Down breed than any other; and we regret exceedingly that it is so nearly obliterated, as we firmly believe that the use of this is now the only means in case defects exist in any of the flocks of Hampshire or West-country Downs whereby these defects can be removed, if a sufficiency of well-maintained blood of Mr. Humphrey's stock can be obtained. In the case of Mr. Morrison's first-prize ram we thought that, quite irrespective of its being overfat, the wool was too deep and hollow to withstand the climate of the chalk hill districts of Wilts, Hants, Berks, or Dorset, and we therefore preferred for stock purposes the second-prize animal, as having closer wool and being firmer in flesh without being overfat, and well calculated to withstand the climate of the hill districts, and furnish to the consumer a heavier weight of flesh without any wasteful fat. In Class 2 the decision of the Judges is altered, Mr. Coles

taking the first prize, and Mr. F. R. Moore the second prize, although Mr. Morrison was an exhibitor in the class, and we thought that Mr. Coles's ram was a splendid animal in every respect, whether of colour of countenance, wool, or completeness of outline, and particularly we noticed the short full neck.

Class 3, For the best pen of five shearling ewes.—This was to our mind the most interesting and the most important class. The first prize, taken by Mr. J. Read of Hornington, Salisbury, was awarded to a pen of splendid ewes of great size, immense length, excellent colour and matching countenance, short good wool, not overfat but full of flesh; in fact we could only find one fault, that of being long and thin in the neck, and we thought how difficult it would be to correct this defect without Mr. Humphrey's stock was available in all its beauty and purity, it being so easy to correct one defect and establish another in the act of doing so. The second prize, given to Mr. Moore, we cannot object to, because they were certainly better than the commended pen belonging to Mr. T. C. Saunders of Watercombe, Dorset, who has been so successful on various occasions previously, but we thought that his sheep in this and other classes were not fed up to the mark, or perhaps he may be reserving his best fed animals for the Royal Society's Meeting at Bristol. We cannot, however, refrain from noticing the loose wool of the second-prize ewes which we have noticed in this stock at former meetings.

Class 4, For the best five shearling ewes never to have been separated from the flock till one month before the day of exhibition.—This is indeed an important contest, because a breeder may select the very choicest animals, separate them from his flock, and feed them at a heavy cost, but here we have only selections from the flock as they are, in all their native character and condition. Mr. James Read is here again to the front with very choice animals, having no defect except that of the neck as stated in the former class; and also commended for another pen.

Class 5, For the best ram lamb.—First prize to Mr. Morrison, an exceedingly fine lamb, much better in our idea than the same exhibitor's animal in class 1; second prize to Mr. A. Budd, Quidhampton, for a lamb of really good style, but not fed up to the point to bring out its merits in full. The third prize and two commendations were given to capital stock, which tended to maintain the advantage of continuing prizes for ram lambs.

Class 6, For the best five ram lambs.—First prize to Mr. Morrison. These rams were a splendid lot, well worth the attention of breeders as contradistinguished from some other flocks, although they may have descended from the stock of the late Mr. Humphrey. Second prize to Mr. Bennett of Chilmark, Salisbury; third prize to Mr. F. R. Moore. Both these are very creditable pens of animals, but the wool may be improved in both cases.

Class 7.—First prize, for five ewe lambs, given to Mr. A. Budd; a fine lot, of good style and constitution but rather thin in the neck, yet of great size and weight. Second prize to Mr. Barton; a good pen of lambs, wool not like we wish to see it, colour of face unexceptionable, necks short, and the head well set on. Taking this breed altogether they may answer well for root-feeding on the home farm, but certainly not on the pasture and park lands.

South Downs.—There were three classes (8, 9, and 10), and the exhibits were no improvement upon former shows; yet the animals exhibited were highly creditable to the breeders, especially the shearling ewes shown by Major-General Fitzwigram, Bart., of Leigh Park, Havant, which were capital specimens of the breed, and well adapted for furnishing mutton of the highest quality to the owners of home farms generally in the southern and south-eastern counties.

Oxford Downs.—These are the most important cross-bred animals—that is to say, of recent introduction; and although in the western districts of the kingdom the Shropshire Downs may be better for that soil and climate, yet the Oxford Downs in the midland counties are the most valuable of the black-faced stock and are much esteemed by the originators of the cross derived from the Cotswold and Hampshire. There are two classes of this breed exhibited, and they contain very large animals of excellent quality and yielding heavy fleeces of valuable wool, especially the shearling ewes, the first prize in each class being taken by Mr. Adams of Pidwell, Farringdon. These ewes are stock of great merit, and we think far superior to the shearling rams; they are so matching for colour of face, size, and quality of wool, which we have never seen surpassed as Oxford Downs. The second prize for shearling ewes is taken by Mr. Wallis, an old name as exhibitor in former seasons, but his stock on this occasion is anything but matching; the difference in the wool is very much against them, although they are heavy well-bred stock.

Long-woolled Sheep.—Class 14, for shearling rams. This was a grand class. The first-prize animal, belonging to Mr. R. Swanwick, is a gigantic specimen of the Cotswold breed, with beautiful and abundant wool, and flesh of excellent quality for this sort of sheep. Messrs. Gillett's second-prize sheep is but little behind the first-prize in merit.

Class 15, Rams of any age.—Mr. R. Swanwick is again to the fore with a magnificent sheep of extraordinary weight for age. Second prize goes to Mr. Raynbird of Basingstoke for a grand animal, and thereby being placed before the Messrs. Gillett.

Class 16, The best shearling ewes.—Messrs. Gillett take this prize with an admirable pen of ewes and worthy of their former fame. We, however, should like to see them with darker grey faces, as these sheep are now so much used for crossing with the Hampshire and other down breeds. This matter is of some importance, and by careful attention it may be obtained without depreciation of the breed in other respects. We have extended our remarks upon the long-woolled sheep desiring to call attention to the long-woolled breeds generally, including not only Cotswolds but Leicesters and Lincolns. Each of them, being stock of a quiet habit of feeding, are admirably adapted to graze with the ornamental cattle usually kept in the parks and home pastures of landed proprietors.

(To be continued.)

WORK ON THE HOME FARM.

Horse Labour.—The mangold should now be horse-hoed the last time where early sown, but the season for drilling was so much delayed by wet weather in May and June that a large portion of the crop is now only being horse-hoed the first time. The early-sown Swedes may now be horse-hoed, also the cabbages and carrots. It is rather early for setting-out or hand-hoeing the carrots; we prefer to hand-pull them where sufficient labour can be found, as the young-pulled plants furnish good food for stock. The horses are employed cultivating for turnips, and where there is any couch grass, instead of whole ploughing, we prefer to rafter or half plough, then scarify across the rafter two or three times; this will keep the grass at top, which can be then more readily separated from the land in the act of rolling, harrowing, &c. The morning part of the day may be occupied by turnip tillage, the afternoon by hay-carting and stacking of the meadow or pasture produce. The horses may now, where the land has been cleared of the hay, be employed by carting dung and earthy composts on to the pasture; and if the compost has been properly treated by turning and mixing this is the best time to dress the pastures, and a few days after the manure is spread it should be chain-harrowed, in order that it may be worked into the land, so that the grass may be immediately benefited by the dressing. The odd horse is still constantly employed in carting materials for feeding the horses, the fattening cattle, the pigs, and the shepherd will also require hurdles removed on changing the pasturage or in the feeding-off green crops, such as vetches.

Hand Labour will now consist of hoeing and setting-out mangold, Swedes, &c. Trimming the hedges, too, will be going on when wet weather stops the hoeing, and it is important that the quick-set fences should be trimmed early before the shoots get hard, because if it is deferred until after the harvest we have found the hard points of the quick injure the feet of the sheep, and when these points enter the bottom of the foot it is a serious matter for sheep, as they often suffer and go lame for a long time.

Farm labourers are more scarce than they used to be, and are more difficult to manage, requiring more pay and doing less work than formerly; it is therefore an important arrangement to have as much of the work of the home farm done by the piece, such as hoeing at per acre, hedge-trimming at per score rods, &c. Thatching of ricks is more difficult than ever to get done at the time required, as thatchers are sort of journeymen going about here and there, and, as they are required, from farm to farm. It is, however, best to have a man who can thatch as a constant workman on the farm; this is easily done, or used to be. We have for many years put some of the most willing and industrious men to thatch the ricks. At first we have known them say they could not do it; as, however, thatchers receive good pay we have found that the prospect of extra wages has induced them to learn the work, and for a series of years we have instructed a number of young men, or at least put them to this work, and they have in various instances become excellent rick-builders, thatchers, &c.

There is, however, unfortunately, less disposition on the part of the labourer to remain in constant work on a farm than there ever was before, and it is this roaming disposition and desire for change which makes the labour question so difficult. We therefore, in order to provide a sufficiency of men on the home farm, advise that enough cottages should be built to locate the men, and unless this is done serious impediments will occur in the labour of the farm, and at the most important time. The labourers, if possible, should be selected as well-conducted men with industrious wives and families, so that women's and boys' labour may be available on the farm. If this matter is neglected, and no women or boys are ready for work on the home farm, where decency and the tidy appearance of everything about the premises is so important, it is almost impossible that it can be effected unless the necessary work be done by men at a heavy cost, and under such circumstances we have found in home-farm management it is impossible to show a profitable and economical account.

MANAGEMENT OF YOUNG POULTRY IN SUMMER.

WE have tried through the various seasons to follow the growth of young poultry, and to point out the special difficulties or infirmities to be guarded against in each stage. It is often thought

and said that when the warm weather comes then the young stock will look after themselves, and that little further care need be taken. This is an error, which, like most other errors, contains a certain amount of truth. It is true, of course, that the hazards from damp and cold winds are past, the delicate season of feathering through which young birds are apt to be dainty and pine is generally over, and a period which should be one of constant hearty appetite and rapid development has succeeded. There are, however, many little things to be attended to in hot weather such as we have had of late. Disease is most easily generated during heat and drought, and seems then peculiarly fatal and infectious. The most frequent and certain source of it is want of ventilation in poultry houses. We suspect that few people have an idea of the suffering endured by fowls through hot nights in ill-ventilated houses and coops. A closed coop with an air hole or two in front does well enough for a hen and brood in February or March (for our own part we should even then prefer a greater amount of ventilation), therefore it is thought the same coop must suit the half-grown brood in June or July. Only let the master or mistress open it some morning and investigate the state of the air within! For old birds and young alike thorough ventilation is now absolutely needed. If possible the doors of all houses should be left open all night. It is the nature of birds to rise early, and insect provender may be found through the early hours in dewy grass which is not procurable later. Where, however, it is impossible to pursue this plan—i.e., where thieves are feared, or the bird's range is too extended for it to be safe for them to wander at large before people are about—there must be thorough ventilation through the houses over their heads.

A large number of our own young poultry roost in trees through the summer, indeed our Turkeys do so at all seasons. Trees are their most natural abode, and we always find them do best there. Of course some risk is run, but we prefer now and then losing a bird through some accident to boxing all up in houses. They become very hardy, and by the autumn their numbers are so thinned by constant weeding that the select few are easily and comfortably accommodated in half the number of houses that would be required if all had to be housed at midsummer.

Coops, too, must be ventilated—i.e., their fronts should never shut up to the top, or nearly so. If they are constructed with a weather board to protect the open part fresh air can always get in, but wet cannot. In settled fine weather a piece of wire netting in front is even preferable to any boarding at night. They must, of course, be opened very early in the morning. We find small moveable houses, about six times the size of coops and without bottoms, capital contrivances to succeed coops. They are at first placed where the coop has last been with open door, and the broods soon take to them. They are moved from day to day, and need no cleaning, for grass land is immensely benefited by this gradual process of manuring.

Diet, too, should be changed in heat. The fare of a native of Hindostan is very different from that of a Laplander, and for physical reasons; we should for the same vary our own and our bird's diet with the temperature. Rice (boiled) and the less substantial meals will now make a good change, and for grain *dari* in lieu of wheat; but above all cool water is of the greatest importance. Not only should all water vessels be emptied and refilled morning and evening, but they must be placed in the shade. Heated water is most prejudicial. It will be found to keep purer and cooler now in deep pans than in the shallow ones used for very young broods.

We have, of course, been speaking about the treatment of early-hatched birds now half grown. In establishments where a regular succession of chickens for the table is required there will still be young broods; these, strange though it may seem, are by no means so easily reared now as earlier in the season. Country people have an old saying about the delicacy of "blackberry chickens;" this probably means chickens hatched during the parching heat accompanied by east winds which we often have when blackberries are ripe. If similar weather comes in June or July the effects are like on newly-hatched chickens; they seem to wither up, refuse their proper food, and rush with unnatural cravings at dried leaves and bits of sticks. We do not pretend entirely to account for this, but fancy it is due to exhaustion analogous to sunstroke, and to dryness of the ground, which does not afford insect food. The coops should, if possible, be put in moist places among trees, and the soil round them watered; a little meat chopped fine should be given to the broods, and some iron tonic mixed with their water. At times all remedies fail, and in yards where, as a rule, nineteen out of twenty April or May chickens are reared whole broods in the summer go off at from ten days to a fortnight old; this, however, generally happens where disease has begun before any care has been taken, and is rarely the case in well-ordered establishments.—C.

VARIETIES.

WE are informed that at the Royal Agricultural Society's Show at Bristol this week Messrs. Sutton & Sons of Reading will exhibit their interesting museum of vegetable products, which will

occupy a space of 130 feet in length. It will include, among many other objects, 250 dried specimens of natural grasses, models of their Champion Swede, collections of mangolds of the growth of 1877, showing its valuable keeping properties; models of different vegetables, collections of 1300 different kinds of vegetable and flower seeds, and an exhibition of valuable silver cups given as prizes, and of the value of £500.

—THE seed farms of Messrs. Webb at Kinver, Staffordshire, were visited on Tuesday, the 2nd inst., by the Midland Farmers' Club, on the invitation of the proprietors. Messrs. Webb's Royal Seed Establishment at Wordesley, Stourbridge, is well known to agriculturists from the annual root shows held there each autumn; but the extensive seed farms of the firm, lying more out of the line of general traffic, are perhaps less well known, except by repute, to those interested in farming matters. Mr. William G. Webb and Mr. Edward Webb received the party with unstinted hospitality. The farms the visitors had come out to see are the largest seed farms in the kingdom, being altogether 1100 acres in extent—Kinver Hill farm, 400 acres; Dunsley Manor farm, 250 acres; Kinver Edge farm, 300 acres; and High Grove farm, 150 acres. Although this represents a large area for seed-growing purposes, it is in reality but a fractional part of the acreage Messrs. Webb employ. The Kinver Hill farm is in great part used only for trial and experimental purposes and for growing stock seeds of selected varieties, to be multiplied afterwards in different parts of the kingdom in quantity sufficient to meet the demands of a rapidly expanding business.

—THERE is one point in poultry management to which we wish to call especial attention, as but few persons who rear poultry for profit ever attach much importance, notwithstanding it has a great influence upon the profits. It is to keep your birds tame, whether they are kept up in suitable enclosure during the entire year, or permitted to have unlimited range, for it pays to do so in many ways. If you keep your birds tame, so they will come to you quickly at the call and eat out of your hand without any sign of fear or distrust; they will always be quiet and content, and will fatten and thrive much better. This matter is well understood by breeders of the larger kinds of stock, such as cattle, horses, sheep, and swine, while there are a sensible few who apply the same principle with poultry. Many a fine nest of eggs has been destroyed by a wild and frightened hen, a hen which had early learned to fear her master or owner. If uniform kindness and gentleness had been resorted to, the hen would suffer herself to be handled while on the nest, and never once think of leaving it in such a hurry as to endanger the eggs. If the poultry on the farm is kept tame, it is not a very difficult matter to catch one or more when wanted for table or other uses.—(*American Poultry Journal*.)

—THE Director of the model farm at Hubandiers, France, M. V. Nanquette, has published a communication on the subject of his experiments in feeding with Jerusalem artichokes. A twelve-years experience has convinced him of the great value of this vegetable as food for horses and foals. Some 6 or 8 lbs. a day, in conjunction with oats and hay, form a most readily digestible ration, as shown by the results of the experiments, and they also improve the general health, while being of special service in promoting a brilliant coat.

—FOR the four weeks which ended on June 17th the beef supplies from America for British markets exceeded 5700 live bullocks and 8000 carcasses, or 32,000 quarters. Mr. Timothy C. Eastman is said to have been the pioneer in this business. He began his first shipment of fresh beef from America to England in 1875, and the lot consisted of forty-five cattle and fifty sheep. At the close of 1876 and at the beginning of 1877 his shipments, mostly from New York, were from six hundred to a thousand head of cattle per week. He has shipped about sixty thousand head in all, having opened markets in London, Manchester, Liverpool, Sheffield, Birmingham, Leeds, Newcastle, Glasgow, Edinburgh, Dundee, and other towns in this country.

PASTURAGE OF BEES.

As a sequel to the conversational letter on this subject which has appeared in the Journal, we shall now notice some of the bee flowers that are considered of secondary importance, and begin with those that flower in spring.

The flowers of crocuses, osiers, and willows are much haunted by bees. These flowers yield much pollen and probably a small portion of honey. Hyacinths that ornament and perfume our flower gardens in early spring contain much honey, and the bee is in taking it from them scratch and disfigure their petals. Single wallflowers, apricots, peach, and almond trees are excellent honey plants, but it is only in warm and protected places in this country that apricots and peaches are grown. Bilberry bushes that cover much of some moorland districts like heather, are honey plants in the highest grade, but as they flower early in districts where few bees are kept very little honey is gathered from them. I guess the honey of bilberry flowers is strong-flavoured like that of heather.

All the cabbage, kale, and turnip tribe of plants have cruciform flowers, like those of ketlock or field mustard, and yield a great deal of honey and pollen. Probably the honey from the cabbage tribe is, like that of field mustard, not of the highest quality in flavour.

Maples, laurels, gorse, broom, and snowberry are all honey plants; but gorse and broom belong to the fourth or fifth grade of honey plants. However, they yield pollen enough to send our bees home besmeared with it yellow as soldiers.

Lotus corniculatus, called yellow clover in Scotland, is a capital plant for honey. It is found in some districts of poor soil, and on roadsides in great abundance. It continues a long time in flower, and is very attractive to bees. I imagine the honey from this is superexcellent. Amongst the garden annuals that yield honey a place and good name are given to borage, poppy, *Centaurea cyanus* (bluebottle), and mignonette, especially mignonette.

Wild thyme which grows plentifully in some parts of some southern counties of England, North Wales, and Wigtownshire in Scotland, is a grand plant for bees, for it yields the highest quality of honey. Buckwheat is sometimes sown in patches about the woods of noblemen's places in England for pheasants. It is extensively grown in America, and in the apiarian world there it takes the place of our heather. Bees are fond of it everywhere, but the honey from it is said to be strong-tasted. The American willow (*Epilobium angustifolium*), which is often seen in cottage gardens and in shrubberies about gentlemen's gardens, is one of the best honey plants known. An acre of it would be a "Lake Superior" indeed for bees. Many more honey and pollen plants could be named, but as they are scarce in some districts, unknown in others, not plentiful anywhere, their enumeration here is unnecessary. I have seen bees working on the hawthorn, the field daisy, the common buttercup, the dock, and the dandelion, but I dare not say that honey can be found in the flowers of these plants.

No two kinds of plants yield honey alike in flavour, or pollen alike in colour.

Let me now congratulate the bee-keepers of Great Britain on the favourable change that has taken place in the weather. Since the 22nd of last month both wind and weather have been very favourable for honey-gathering. If this weather continue for two or three weeks the year 1878 will be a remarkable one for heavy hives. Let all the empty supers be put in use, and all the honey jars be got ready.—A. PETTIGREW.

BEEES IN THE NORTH.

MR. PETTIGREW'S contributions are interesting, but I should like to see letters from other parts of England giving the experience of those who use large hives.

I mentioned in a former letter that I started in the spring of 1877 with three very small hives. I had three first swarms which I put into 18-inch hives, and two second swarms which I put into 12-inch skeps. All my hives lived through the winter, but one, a small old one, died in May with 14 lbs. of honey in the hive. The three top swarms in the 18-inch hives were not filled; one which was swarmed on the 27th June, 1877, was not half full, but strange to say it weighs now 55 lbs., after having sent off a swarm on the 26th. The others are quite full, but as I am going from home and it is late I am trying to prevent swarming. I have put on ekes and supers, in which they are working as only large stocks in large hives can do.

I want more particularly to let Mr. Pettigrew and others know about an 18-inch hive which last September I populated with the bees of two or three people who intended to "smoor" (suffocate) them with brimstone. These were six small swarms; I fed with syrup according to instructions, but they only about one-quarter filled the hive, and I was afraid they would not winter, and as this spring has been very unfavourable I have fed frequently but not largely with this result:—Hive, board, honey, and small super weigh 65 lbs., and as I write they will be 70 lbs., for I weighed it last evening. I weighed it first on the 18th of June, when it was 34 lbs., hive and board included; 19th, 36 lbs.; 20th, 37 lbs.; 23rd, 43 lbs.; 25th, 49 lbs.; 29th, 65 lbs.

I put an eke on last night to prevent, if possible, swarming; not that I object to swarms if they come before the 15th of June, but my hives not being full to begin with, and a wretched wet spring, they have had little chance with small hives; but even those in this part have in few cases thrown off swarms till within a week or so. Our honey season is only commencing. I have done some artificial swarming with small stocks with complete success.

If some of your correspondents would give results of large hives well managed I feel sure many others would be glad besides.—HARDY OF THE HILLS, Northumberland.

OUR LETTER BOX.

HENS UNMATED (T. M.).—Hens lay perfectly well if kept without a cock, almost as well as with one. We know many amateurs who live in towns who never keep one, but when the opportunity occurs they borrow one for a few

hours. This is easily done, and where it is not intended to hatch chickens the breed is unimportant. Any will do. We do not think it any advantage to keep the cock between this and the middle of December. We speak, of course, of eggs intended only for the table.

FULL HIVE (Comber).—As your hive has filled a large eke and is very strong it should be either supered or swarmed at once. If you resolve to super it first, cut a good large piece of white comb out of the side of the hive and fasten it in the super before it is put on. The piece of comb will tempt the bees to enter the super and commence work. The super should be large enough to give room for the bees and hold 20 lbs. of honeycomb. If you resolve to take a swarm instead of using a super, put the swarm in a small or 16-inch hive, which will be easily filled and made into a good stock. If you want honey this year your better way will be to super. If you want an increase of stocks swarm the hive artificially, and encourage both swarm and stock to breed well at the end of this season.

WAX-PRODUCING BEES (Mrs. D.).—The white scales or flakes seen on the bodies of the bees you have sent are pure wax, produced and excreted in the natural way, but in far greater abundance than we have ever seen before. Bees building combs secrete wax, and the secretion is excreted and appears on the under sides of their bellies. Two flakes at a time are usually produced by a bee, and are extruded at one of the rings of the abdomen; but in your case four and six flakes appear at the same time, all apparently perfect, though some of them are extruded at the last ring of the abdomen, even up to the point. This superabundant production of wax is certainly abnormal and wonderful, but as the bees are quite healthy you have nothing to fear. The other hives will not be affected or hurt in any way by the wax-producing hive. The fact that the board of the hive is covered with flakes of wax is not to be wondered at, for bees that produce two flakes only at a time drop many on their boards, but where six are produced instead of two many more will be lost in the process of comb-building. We are obliged by your interesting letter.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.						Rain.
1878.	July.	Baromet. at 32° and Sea Level.	Hygromet- er.		Direction of Wind.	Temp. of Air at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
			Dry.	Wet.			Max.	Min.	In sun.	On grass		
		Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.	
We. 3	29.924	58.0	54.0	W.	60.8	66.9	51.3	108.2	60.4	0.040		
Th. 4	30.151	61.5	56.8	N.W.	59.6	73.0	43.5	124.6	41.1	—		
Fri. 5	30.115	65.2	61.0	S.W.	60.8	72.7	54.0	122.2	50.5	—		
Sat. 6	30.110	63.9	62.9	S.W.	61.8	77.0	56.9	120.4	55.2	—		
Sun. 7	29.908	63.8	61.2	N.W.	62.2	75.5	54.6	120.6	52.2	—		
Mo. 8	30.073	65.8	58.3	N.N.W.	63.1	72.9	55.8	124.4	51.3	—		
Tu. 9	30.106	66.5	60.3	S.W.	62.9	76.5	53.2	127.0	50.4	0.028		
Means	30.068	64.2	59.2		61.6	73.5	52.8	122.5	50.2	0.068		

REMARKS.

3rd.—Dull showery morning; fine and bright after 3 P.M.; cool evening.
4th.—Fine day; heavy clouds and stormy-looking evening; starlight night.
5th.—Dull morning; fine afternoon and evening.
6th.—Fair but dull morning, bright sunny afternoon; cloudy evening.
7th.—Fine day with pleasant breeze, at times stormy-looking; dull evening, few drops of rain at 8 P.M.
8th.—Fine pleasant day; moonlight evening.
9th.—Fine sunny morning, gusty wind; very cloudy afternoon; slight rain in evening.
Cold in night between 3rd and 4th, otherwise an uneventful week.—G. J. SIMONS.

COVENT GARDEN MARKET.—JULY 10.

OUR market has been very lively this last week.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½ sieve	0	0	0	Melons.....	each	4	0	0
Apricots.....	dozen	1	0	3	Nectarines.....	dozen	4	0	12
Cherries.....	½ lb	0	6	1	Oranges.....	dozen	3	0	10
Chestnuts.....	bushel	10	0	20	Peaches.....	dozen	4	0	18
Currants.....	½ sieve	0	0	0	Pears, kitchen.....	dozen	0	0	0
Black.....	½ sieve	0	0	0	dessert.....	dozen	0	0	0
Figs.....	dozen	6	0	12	Pine Apples.....	½ lb.	3	0	6
Filberts.....	½ lb.	0	0	0	Plums.....	½ sieve	0	0	0
Cobs.....	½ lb.	0	0	0	Raspberries.....	½ lb.	0	0	0
Gooseberries.....	quart	0	6	0	Strawberries.....	½ lb.	0	6	1
Grapes, hothouse.....	½ lb	2	0	8	Walnuts.....	bushel	5	0	8
Lemons.....	½ 100	6	0	10	ditto.....	½ 100	0	0	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	dozen	2	0	4	Mushrooms....	pottle	1	6	2
Asparagus.....	bundle	2	0	6	Mustard & Cress	punnet	0	2	0
Beans, Kidney forced.....	dozen	0	6	2	Onions.....	bushel	2	6	8
Beet, Red.....	dozen	1	6	3	pickling.....	quart	0	4	0
Broccoli.....	bundle	0	9	16	Parsley.....	doz. bunches	2	0	0
Brussels Sprouts.....	½ sieve	0	0	0	Parsnips.....	dozen	0	0	0
Cabbages.....	dozen	1	0	2	Peas.....	quart	0	2	1
Carrots.....	bunch	0	6	0	Potatoes.....	bushel	3	6	7
Capsicums.....	½ 100	1	6	2	Kidney.....	bushel	5	0	7
Cauliflowers.....	dozen	3	0	6	Radishes, doz. bunches	1	0	1	6
Celery.....	bundle	1	6	2	Rhubarb.....	bundle	0	6	9
Coleworts, doz. bunches	2	0	4	0	Salsify.....	bundle	0	9	1
Cucumbers.....	each	0	4	1	Scorzonera.....	bundle	1	0	0
Endive.....	dozen	1	0	2	Seakale.....	basket	0	0	0
Fennel.....	bunch	0	3	0	Spinach.....	½ lb	0	3	4
Garlic.....	½ lb.	0	6	0	Shallots.....	bushel	2	6	1
Herbs.....	bunch	0	2	0	Turnips.....	bunch	0	6	9
Leeks.....	bunch	0	2	0	Veg. Marrows....	each	0	0	0
Lettuce.....	dozen	1	0	2					

WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 18—24, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.	Days.	m. s.		
18	TH	Newcastle and Luton Shows.	74.6	50.4	62.5	4	6	8	6	9	36	8	28	18	5 56		199
19	F	Helensburgh Rose Show.	72.8	50.7	61.8	4	7	8	5	9	46	9	37	19	6 1		200
20	S	Cleckheaton Show.	72.5	50.6	61.6	4	8	8	4	9	58	10	46	20	6 5		201
21	SUN	5 SUNDAY AFTER TRINITY.	73.2	50.6	61.9	4	10	8	2	10	11	11	55	21	6 8		202
22	M		73.1	51.5	62.3	4	11	8	1	10	26	1	a 6	22	6 10		203
23	TU	Royal Horticultural Society—Fruit and Floral Com-	73.8	52.1	63.0	4	12	8	0	10	47	2	19	23	6 13		204
24	W	[mittes at 11 A.M. National Carnation Society's Southern Show. Leicester Show.	72.5	52.0	62.2	4	14	7	59	11	14	3	33	24	6 14		205

From observations taken near London during forty-three years, the average day temperature of the week is 73.2°; and its night temperature 51.1°.

HINTS ON LANDSCAPE GARDENING.—No. 6.
THE SITE OF A HOUSE.



LANTING is so much interwoven with almost every part of landscape gardening, that before proceeding to treat of the formation and arrangement of trees and shrubs in clumps, belts, and beds, some common starting point should be chosen.

The residence suggests itself as the most suitable object for our purpose, and we will first turn our attention to the selection of its site. In doing so we must not forget the importance of shelter, of an abundant supply of pure water, of a pleasant view of rich natural scenery, and of access to the house.

Fondness of a fine view frequently induces forgetfulness of the water supply and shelter till the building is finished and it is too late. I will give an example by way of illustration.

Upon a range of hills some 600 or 700 feet above the sea level, commanding a pleasant landscape, widespread, and with another still more lofty range of hills broken into numerous peaks and undulating ridges in the distance, two gentlemen decided to build their houses; one placed his out upon the topmost plateau exposed to every wind that blows, overlooking miles of country, with all the distant hills fully in view, and with a water supply entirely dependant upon wells and pumps: The other gentleman, with sound judgment and excellent taste, chose a site upon the side of a sunny slope open to the south, but with high land sweeping boldly upwards upon either hand from the south-west and south-east to the northern ridge behind in the form of an irregular semicircle, affording shelter from cold winds in spring and from south-western gales at all seasons of the year, to which advantages subsequent planting gave a complete finish, and formed a snug, cosy, home-like air, which the more exposed house never could possess. Thus the house was shut in on every side but the south, where there lay before it a view of great beauty and richness—just a choice bit of the more extensive scenery to be enjoyed by climbing the hill behind the house, and with only a few hill peaks and ridges in sight, but which undoubtedly gained in effect from their isolation. An abundant supply of pure water was obtained from a spring flowing from the north hill about 100 feet above the level of the site of the house, so that by means of a reservoir and piping it was conveyed to cisterns at the top of the house and distributed about the garden and among the outbuildings without artificial force of any kind. Fountains, too, were introduced at various points at a comparatively trifling cost, and thus every natural advantage was seized upon and turned to account.

In a hilly country such situations are by no means scarce. Many a fine position for a house have I seen lying waste in various parts of England, notably in the home counties of Kent, Sussex, and Surrey; and also in Derbyshire, Devonshire, and Cornwall, and, oddly enough, it is not uncommon to find such positions overlooked and houses built in all

sorts of incongruous positions. Three examples occur to me now. The first is an estate near the east coast, with a very undulating surface forming an irregular series of hills and valleys, one central eminence commanding the estuary of a river alive with shipping on one side and a picturesque wooded valley running inland on another, and yet the house is built in a low, damp, unwholesome situation shut in by trees, and with its principal front facing the north! The house is an old one, and one can only account for its odd situation by supposing that its builders sought shelter and proximity to a public road, the making of good private roads being then a matter of greater difficulty than it is now.

The second house, a large massive structure, illustrates another extreme, for it has no shelter of any kind, but crowns an eminence in the centre of a park, and certainly commands views of some of the best park scenery in England; yet it is undoubtedly a mistake, the park containing a much finer situation, more elevated, and near the upper end of a valley, turf-clad, and with gentle widespread slopes ascending gradually to well-timbered heights, where magnificent old Oaks cluster together in clumps and stretch their gigantic arms alongside cool fernery glades. Majestic trees of uncommon size also shut in the head of the valley, and from thence one has a view of singular richness—downwards over wide sweeps of turf agreeably broken by equally fine masses of timber, across the waters of a lake with glimpses of its winding shores half hidden among the trees at other points, onwards over some miles of well-timbered country beyond the park to a lofty range of hills in the distance.

My third example is an equally fine structure upon an elevated and tolerably well sheltered position in a park which it overlooks to its farthest boundaries, with just a glimpse of water and a winding shore which invites us to explore, and upon doing so we come upon a sunny sheltered slope commanding a view of an estuary with winding shores densely wooded to the water's edge, so beautiful that we are lost in wonder that advantage had not been taken of so fine a site, infinitely superior in every way to that whereon the house stands.

When there are no uplands, and the surrounding country is flat and monotonous, we should select a site overlooking fine timber, or a space which may be made ornamental by judicious planting as well as by breaking up certain portions of the surface, not for the formation of a series of trivial mounds and ridges as for the production of a bold and picturesque effect, such as we have in an excavation for a piece of water with high-raised banks, and with a miniature dell leading down to it, also formed by excavations. Let it not be supposed, however, that I wish to imply that level spaces cannot be rendered ornamental without being broken up. There is so much beauty in the soft fresh turf of this country, that one desires few more pleasant sights from the windows of a house than a turfey expanse well timbered with clumps, glades, and solitary specimens of ornamental trees. Combined with the repose of such a scene we have dignity, refinement, and ample life and variety; for it is idle to talk of tameness in the

presence of fine trees when they are arranged with skill and taste.—EDWARD LUCKHURST.

WINDOW GARDENING AND WINDOW PLANTS.

(Concluded from page 3.)

SOIL.—Seedlings, such as annuals hardy and half-hardy, once started may be, and are generally, grown in the open beds or borders, and will grow in almost any soil except it is wet and undrained or too sandy or peaty, in which case nothing will thrive. Most people have a bit of garden of some kind, and if in towns a patch often before their doors, for a small border or flower bed. In all such cases a few barrows of prepared soil would be most desirable. The prepared soil might consist of loam. In towns it would be worth the cost, if you are not experienced, to procure it from a nurseryman, as loam is indispensable for general potting purposes also; the best substitutes for good loam is dry cow manure procured in summer in cakes and torn asunder, or leaf mould one or two years old. With a sufficient quantity of these three to mix as may be desirable, some peat for the use of fine-rooted plants, some sand for general purposes (to be used cautiously, as it is cold, and most soils contain a sufficiency of silica for early elaboration), some lime to strew in the way of slugs, &c.; some soot to use with the watering when a deep rich tint is desirable. The proportion in which those soils should be mixed for different plants and how used can be readily ascertained by a cursory look through the "Garden Manual" or the "Window Gardening" handbook, published at the office of the *Journal of Horticulture* and obtained for a few pence, and into which the limits of those observations do not permit me further to enter.

POTTING.—If the pots are new steep them until they cease to effervesce, and then put them to dry. If they are old they should be thoroughly washed, and to make them look like new take a piece of a pot and in the washing scrape the sides of dirt or green slimy formation with it. Speaking generally broken potsherds are best for drainage covered by moss, short straws, or the fibre of loam to prevent sand or clay being washed through. Instead of potsherds, and often more convenient, you can use small granulated, not too small, charcoal, which the roots may be often observed twined around, and from which they take in carbonates; over these the coarser part of your soil, and the finer portions for the surface; but for a growing plant, seedling or cutting, the more open the soil is, especially with amateurs, the greater the certainty of success. Any soil in which a sufficiency of water does not readily pass away is unsuitable, and will but bring disappointment. Next in order, and first in importance, towards success is

WATERING.—If you have reason to think the soil is moderately moist, and that your plant is not thoroughly established as a young seedling, if the flagging occurs through sun heat, shade rather than water. If an old plant watering will not do harm at any time, but in most cases in summer the evening or early morning is more desirable. In winter little watering is necessary as a rule for window plants at any time, as in most cases, except bulbs and essentially winter plants, growth should not be encouraged. Nothing is more undesirable than watering by routine. You may examine your plants morning, noon, or night, but you must not water by any means so systematically. The necessity for watering at all depends very much on the action of the sun. Well, during the month of June, up to the 18th we had not one day's warm sunshine, and instead of the thermometer standing at 80° it did not, as I remember, once exceed 60° in the shade. During the past week alone the rainfall exceeded 2½ inches. Need I say for outdoor plants watering was wholly unnecessary, and owing to the humid state of the atmosphere, and consequent non-evaporation, watering for window plants was also almost undesirable? Now, if this is so in June, the same principle of atmospheric observation must very much guide you at other times in your waterings. Great heat will produce evaporation or perspiration from your flower pots or flower leaves, and this must be returned some way. Watering is not always the best way to do it. Syringing the plants, the glass, or the flagging of the floors produces a moist atmosphere in a greenhouse in hot weather, and the more nearly window gardeners can imitate this the better. I have grown Balsams beautifully shrubby and healthy in a window by closing during warm sunshine and taking a bunch of feathers and some soft rain water and lightly showering it on the leaves and around, thus creating a moist atmosphere around the plants, which, owing to having plenty of air and their dry situation, were prevented from

being shanky or drawn. I mention this as an illustration. There is less necessity for a moist atmosphere in most other cases, as this moist atmosphere, uninterrupted growth, and plenty of hot room is for them a necessity for success. A few words how one may generally know when their plants want watering: For small plants after a little experience you can absolutely know by the weight of the pot. Generally you know by appearances, but to this there are many exceptions; for instance, a dry March north-east wind will leave the surface as dry as ashes in one half hour, but the roots may want no water—in fact if cold it would be injurious. By striking the knuckles against the side of the pot—this is the plan adopted with large pots that cannot easily be raised or weighed on the hand; and lastly, even though the surface may appear dry, should the soil effervesce on the application of water nothing but a regular plunging in a vessel of water will be sufficient. As to what water is most desirable—Soft water is much to be preferred; chills are avoided, and a French *savant* published some experiments to show that in absorption hard water had a caustic effect on the spongioles and minute rootlets, while rain water exposed to the sun appeared to have a soothing effect as well as an evident stimulus to elaboration. This seems reasonable, and were plants treated as living organisms, subject to many of the climatic vicissitudes that affect human beings, and were it remembered they are circulated by sap as our frames are by blood, and with many other peculiarities in common, it might be hoped a more intelligent interest would be taken in their welfare, errors in the treatment of which often arise from a want of knowledge to do better. To those who love plants—and who will not plead guilty to the soft impeachment?—there is no sorer sight than a dying waterlogged beautiful plant incapable of effecting its own cure. Therefore keep a vessel for rain water, and expose it to the sun and air to make it warm and soft. Little watering is necessary except in a warm sitting room during the winter months, and then use water of the temperature of your room by leaving it one side of a fire or on a boiler until the cold is gone out of it. If you cannot have rain water you can soften spring water, by boiling and subsequent cooling, by the addition of carbonate of soda or potash, though I must confess my dislike of those latter means as compared with the other.

Manure Waterings.—I have always been of the opinion this is too little resorted to. Window gardeners must generally use small plants and small pots. This is principally because their space is limited and because they love variety, and it can hardly be denied that a neat, compact, well-grown little plant is much more to be preferred than an unduly forced and consequent short-lived larger one. This can be even better done by an intelligent study of how liquid manure can be advantageously applied and used in preference to a large body of earth with loss of space and loss of variety. As a rule sheep droppings, cow manure, guanos, or phosphates, &c., can be had inexpensively—and the two first in the country for gathering—and must be used weak and clear. It should, however, be frequently used for plants in robust health in small pots, and still more so towards the time of the expansion of the flower blooms. An intelligent use of manure waterings will save much trouble in repotting, will keep your plants in rude health, and if soot is sparingly used with it will give a tint and finish to the foliage and bloom that well repays the trouble. A sponge to wipe up what passes through as surplus, and some dry dust as a deodoriser, will facilitate its use in the costliest of drawing-rooms, and render it unobjectionable either to the olfactory nerves or superior taste. A small tank in the ground that takes up little space, and that may be furnished with a cover, and into which you may throw slops occasionally, with the horse, cow, or sheep droppings to be often had for nothing, is all that is necessary; only when the supply begins to fail should it be stirred.

INSECTS.—I grow hundreds of plants, most of them suitable for windows, and rarely ever see an insect. I attribute this to providing them with a suitable atmosphere both as to air and temperature, and cautious and careful watering—I say cautious watering, for invariably a water-sodden sickly plant will be covered with green fly and communicate them to its neighbours. When one appears immediately remove it and syringe or wash. Some have small conveniences for fumigation, but remember precaution is better than cure. A healthy well-grown plant will seldom give any trouble that way; if it does a syringing with a diluted solution of tobacco water will effect a perfect cure either of green fly, thrip, red spider (which I have never seen on a window plant), &c. Calceolarias, Cine-

riars, Primulas, and Pelargoniums are the gems of window plants, and subject to green fly. To avoid the possibility of this grow them slowly onwards to a certain stage in moist pits or frames, and insects will give you no trouble. Mice and other vermin care little for plants, and will disappear if nothing is left in their way upon which they usually feed.

Were the limits of this article not already exceeded I should feel bound to separately notice such necessary operations to be borne in mind as cleanliness, washing and syringing; respiration, perspiration, or evaporation; shifting, light and shade, &c.; but there is the less necessity for this, as the several points have been cursorily referred to in connection with other points as we proceeded. It now remains to mention some window plants, which with very limited means I have myself successfully grown and flowered during the past twelve months without the use of any extra appliance but a pit with some hotbed manure to start seeds and cuttings in early spring:—

1, *Indispensable Window Plants*.—Calceolarias, Cinerarias, Fuchsias, *Primula sinensis*, Petunia, and Verbena.

2, *Very Desirable Plants*.—Abutilon, Acacias, Ageratum, Amaryllis, Balsams, Bouvardias, Cuphea, Coronilla, Camellias, and Citrus family, Daphnes, *Deutzia gracilis* and the double variety, *Dielytra*, Epacris and Ericas, Gazania, Hydrangeas, Heliotropes, Justicia (I have one in flower at present in a window), Lilies, Myrtles, Richardias or the Nile Lily, Salvias red and blue, Tree Carnations, &c.

3, *Plants that with Care do better Outside*.—Antirrhinum, Auricula, Asters, Anemones, Chrysanthemum, double Primroses and double Rockets, Marigolds, Mimulus, Polyanthus, Portulaca, Pentstemon, Phloxes, Ranunculus, Sweet William, Stocks, Zinnias, &c.

4, *Creepers and Climbers*.—These are for sides of windows or trailing along sides of boxes.—*Cobaea scandens*, *Dianthus Heddwigii*, Ipomeas or *Convolvulus major*, Lobelias, Sweet Peas, *Tropæolums*, while *Saponaria* and *Nemophila insignis* make nice edgings.

5, *Sweet-smelling*.—Musk, Mignonette, Violets, Wallflowers, &c.

6, *Bulbs*.—Crocus, Hyacinths, Gladiolus, Ixias, Sparaxis, and Tritonias, Tulips, with such handsome things as *Tigridia*, *Scilla*, *Babiana*, &c.

7, *Succulents*.—Aloes, Cactus, Crassula, Sedums, &c.

8, *Tender Plants*.—With a little bottom heat to start with you can readily, as I have at present, tuberous Begonias, Celosias, Achimenes, Gesneras, and Gloxinias. If the three last mentioned never flowered the foliage would be "a thing of beauty" itself, which Shakespeare calls "a joy for ever."
—W. J. M., *Clonmel*.

GRAPES WITHOUT FIRE HEAT.

THIS subject, mooted by "A KITCHEN GARDENER," criticised by Mr. David Thomson, and reviewed by "NORTH LINCOLN," is one of very great importance. Gardeners know tolerably well that excellent Grapes can be ripened without fire heat over the greater portion of England. In the extreme north of the island it is not expected they will so ripen, but let not this fact deter those residing in more sunny and favoured districts from erecting vineries from the fear of incurring after and permanent cost by the purchase of fuel.

I can confirm what has been said by your correspondent, on page 22, as to Grapes ripening in Lincolnshire without fire heat. I have seen splendid Grapes produced in that county where the heat has been wholly supplied by the sun.

The means of heating a vinery is, as has been suggested, undoubtedly valuable, especially for protecting plants in winter. But even that is not always an advantage in the case of amateurs, who are sometimes rather fond of "playing with fire." An amateur of my acquaintance grew Grapes of superior quality without any fire heat, such Grapes that held their own at autumn exhibitions. Thinking to achieve still greater results he at considerable cost heated his vinery, and never afterwards produced Grapes of such fine quality as before when the sun did all the heating.

I believe that Grapes may be satisfactorily grown without a shovelful of coals in any sheltered situation south of the 53° of latitude, except, perhaps, in the dull western counties; on the more sunny east coast as far as Yorkshire I know they may be so grown in sheltered gardens. It would be instructive if gardeners residing further north than the locality indicated would state their experience on this question. I have seen very fine Grapes grown in Nottinghamshire without any fire heat having

been applied. Will they not succeed also in Derbyshire, Leicestershire, and Staffordshire under the same conditions? and what about Shropshire, Herefordshire, Warwickshire, and other of the inland counties?

If evidence can be afforded that Grapes can be produced in the counties alluded to under the simple conditions suggested a great impetus will be given to the erection of plain vineries as adjuncts of the homes of many who otherwise cannot obtain Grapes either for their own families or for distributing amongst their sick neighbours. Vineries and icehouses in country districts are far more beneficial than alehouses, and every encouragement should be given for the erection at least of the inexpensive and enjoyable structure first mentioned.
—A LINCOLNSHIRE GARDENER.

SECURING GRAFTS AND BUDS.

A LETTER from a correspondent detailing the loss of some much-cherished grafts by their not having been properly secured reminds us that many grafts and buds are annually broken off by the wind. Remedies are often submitted just too late to be of use, and warnings circulated after evil has been

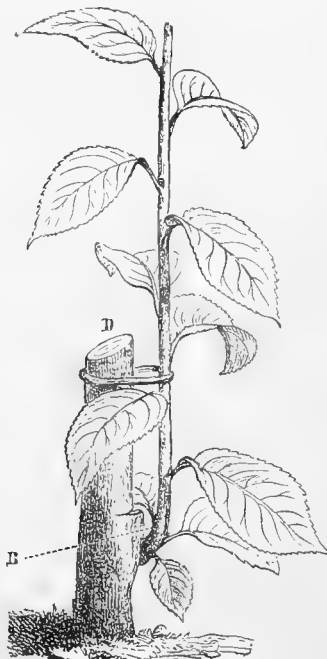


Fig. 6.

done. Grafts are now growing rapidly, and buds of Roses and of fruit trees are many of them in danger of being blown out by the storms and gales. In many cases the stocks themselves may form the means of support; all that in such a case is required is the securing of the graft to the stock as represented in the engraving from the excellent work of M. Baltet, the stock being shortened at the winter's pruning at the point D. In other cases stakes affixed in the ground and reaching a sufficient height to afford the requisite support are necessary, or in the case of standard trees and Roses stakes must be affixed to the stems of the trees in such a manner that the new and as yet insecure growths can be fastened to them. Whatever means are adopted for securing the grafts let them be adopted in good time, or injury may be done in an hour that cannot be repaired in a year. Be the grafts or buds few or many, it is important that they be made safe at this period of the year—hence this reminder, suggested by a loss that has caused much regret.

ROSES.

COULD not prizes be offered for Roses which were cut a certain number of hours before the time fixed for judging? This would place those competitors coming from a distance on an equal footing with those who live on the spot. Of course

the judges would have to trust in the honour of competitors, but I hope that there are not many true Rose lovers who are not men of honour.

I have noticed that soft soap has a very bad effect on light-coloured Roses; for instance, John Hopper and similar sorts, turning the edges of the petals a bluish purple and withering them.—C. C.

GRAPES SCALDING.

WE are approaching the time when late Grapes will be passing through the stoning process, and "scalding" is likely to occur, as it often does, owing to the false economy of dispensing with fires, which results in a low night temperature and consequent deposition of moisture during the night, which, from the powerful rays of the sun drying up the moisture, causes the destruction of the skin of the berry so acted upon. Scalding may also have its cause in too scant foliage, as in the case of Muscats, which, unless the foliage is good, not infrequently scald, or rather scorch, when they are hurried into ripening early in the season. This may be entirely prevented by hexagon netting drawn over the roof for a few hours in the hottest part of hot days. The best preventive of scalding is admitting air early and plentifully by day, and providing a night temperature of 70°, not omitting to maintain that temperature by day in a dull moist period, for in a hot time following a cold and moist one, and no fire heat being employed to supply the deficiency of natural heat, scalding is almost always prevalent.—PRACTICALIST.

THE ROCK GARDEN AT ST. ALBAN'S COURT, WINGHAM,

THE RESIDENCE OF W. O. HAMMOND, ESQ.

WHEN my friend Mr. Hammond wrote, "Will you come and see my rockery next week?" I felt glad to be able to fulfil an engagement long since made, as I was sure from all that I had heard that I should have a real treat, and hoped also to be able to let the readers of our Journal know something concerning it; for although a florist I am not by any means insensible to the charms of Alpine and herbaceous plants, and do, indeed, endeavour in my own small way to grow them. There are gradations in all these things, corresponding to the tastes and capacities of the owners, and ruled more or less by that very important factor the purse; and although after seeing such a rockery as this my own sinks into insignificance, it is some consolation to think that Mr. Backhouse has reached an eminence no amateur is likely to attain.

St. Alban's Court is situated close to the village of Nonington in Kent, about four miles from the Adisham station of the London, Chatham, and Dover Railway, in the midst of the chalk downs which give their character to the whole neighbourhood. The house, which is a very old one, is coming down, and Mr. Hammond is now building in a more elevated position a house which will be when completed a very perfect specimen of Tudor architecture, for no trouble has been spared to obtain accurate models for it throughout; and its owner's consummate taste, which is never at fault, will, I feel confident, make it what it professes to be, and no modern sham of "architects' improved Tudor."

The gardens present no special object of interest, but the Rock Garden is, next to Mr. Backhouse's, the best that I have seen. It is made in the form of an amphitheatre. The red sandstone rocks of which it is composed have been obtained from Tunbridge Wells and Hawkhurst, and are well adapted for the purpose. They are very naturally arranged, and placed so as to afford suitable houses for the various tribes of plants cultivated. On the more elevated portions Saxifragas, Sedums, &c., grow in profusion; others are placed on the face of the rocks, while there are boggy places in which Cypripediums, Pinguiculas, &c., find their home. In all the earlier months of the year such a garden affords a continual source of interest and pleasure, and for months a succession is kept up. When I went the Primulas, Gentians, &c., were over, but they were succeeded by many equally interesting. Take for example the well-known Edelweiss (*Leontopodium alpinum*), dear to all who have travelled in Switzerland as a memento beautiful in itself of many enjoyable days. This, the result of Mr. Hammond's own wanderings, is to be found growing quite at home in various places in the rockery. And here let me say that the owner's interest in this garden is not that merely of one who likes these plants, but of one who makes frequent expe-

ditions in search of them, and many of them have a personal history. Here, for example, are splendid groups of the lovely *Ramondia pyrenaica* in far greater abundance and beauty than I have ever seen it before. "This," says Mr. Hammond, "first made me a lover of Alpines. I was travelling in the Pyrenees and saw it growing above me on the face of a rock. I marked the spot, and on my return mounted on my friend's shoulders and secured it." It is grown here in the shade of the rocks with comparatively little soil, and seeds abundantly. Amongst the Saxifragas were to be found *S. longifolia*, undoubtedly the queen of Saxifragas; but no plant here was equal to one which Mr. Hammond had some time ago, which measured 14 inches across. I have a very fine one myself, now, alas! in flower, the stem quite 2½ feet high, but killing itself, I fear, with the effect. *S. Burseriana*, with its silvery compact tufts; *S. calyciflora*, with stiff, cylindrical, silver-edged rosettes; *S. oppositiflora*, of course now past, but evidently thriving, and earlier must be a thing of beauty. Some of the mossy section were also very luxuriant, forming dense cushions of velvety green and covering the surface of the rocks. In a deep boggy piece to which a supply of water can be let on were found a quantity of the Butterwort (*Pinguicula*), which had been brought from Scotland. *Cypripedium spectabile*, the beautiful North American species, was doing well, as was also our pretty English one *C. calceolus*. The Androsaces, as all lovers of Alpines know, are difficult to manage, but one of them at least—*A. lanuginosa* with its woolly foliage—is grown well here, having been raised from seed, as also does *Saponaria cespitosa*. *Geranium cinereum* is one of the prettiest of an extensive genus, bearing large and handsome pink flowers veined with red on plants 2 to 6 inches high. *Geranium argenteum* is another low-growing, almost prostrate species. Of the *Drabas* *glacialis*, *cuspidata*, and *gigas* were in full vigour, as were also the *Soldanellas* and *Globularias*. Then the lovely little *Lychnis alpina*, delicate enough for a fairy's bouquet, was in flower. There were also large masses of the beautiful *Silene acaulis*, which forms so lovely a contrast to the brilliant blue of *Gentiana verna*, but these had past. The latter had been successfully grown by placing it amongst some minute-growing Alpine, as it has done with me amongst *Arenaria balearica*.

However, it is needless to run through the names of the Alpines to be found here. Suffice it to say that whatever is really good is sure to find its way to this garden, and whoever really loves flowers for their own sake ought to try and extend such a taste as this. If a man be strong and young, then the records of many an expedition will bring to his mind as he goes through his garden many pleasant memories and afford unceasing pleasure, as I know they do to the owner of St. Alban's Court.—D., Deal.

MY CHRYSANTHEMUM HOUSE IN SUMMER.

THE winter bloom of Chrysanthemums past I prepare the borders by trenching and working into them a quantity of good rotten dung for a summer display of Fuchsias which I have ready for planting. They are struck in a cold frame in June the previous year, and are nice little plants about a foot in height. I plant three rows in each border, keeping free growers in the back rows, mixing the colours, and planting them alternately about 16 inches from plant to plant. When planted and the borders well watered I pot off all bedding Geraniums and any other small plants requiring potting and place them on the surface of the border, taking care not to smother the Fuchsias. Of course the Fuchsias would be as well without them; but space under glass is valuable, and the treatment required for young Fuchsias just suits the newly potted plants, such as keeping the house pretty close and sprinkling often. In April I remove all the bedding plants to cold frames. The Fuchsias by this time are growing pretty freely, so I hoe and clean the border, pinch and stake any that are inclined to run away from their friends, fumigate if required, and give the borders a good watering. In regard to water, the Fuchsia, like the Chrysanthemum, must get plenty, and occasionally manure water, besides sprinkling overhead. The planting-out system reduces this labour one-half, besides saving pots and the time taken up by the different pottings, prolongs the time of flowering, gives finer blooms, and is altogether the most natural. Last season the Chrysanthemums were bloomed in another house as I wanted to renew the borders of this one, and instead of being thrown out in the autumn were left for a time, and at Christmas there was still a good show of Fuchsias. I keep the flowers picked off till

the plants get established in the borders, and during the summer remove all seed pods. About the middle of June I prepare a cold frame with about 6 inches of light soil, such as equal parts of loam, leaf mould, and sand, pressed pretty firmly; select as many cuttings as are required, dibble them in, give a good watering, shade from bright sunshine, and keep the sash close till rooted, when they get air gradually, and the sash is removed altogether as soon as the young plants can bear full exposure. There they remain till autumn, and all they require is a good watering with a rose if the weather be dry. Free growers are pinched and all blooms picked off. Before winter sets in I pot them off, using a light rich soil, and from 3 to 5-inch pots, according to size of plant. Most of them keep growing all winter, so they must not suffer for want of water, and must be kept clear from green fly. I store them in a cool greenhouse along with bedding plants.—ALEX. M'MILLAN (in *The Gardener*).

ROSE MÉLANIE WILLERMOZ.

NEVER before have I seen this Rose so beautiful as it has been this summer; and it is not improbable that I might have remained ignorant of its full value if I had seen it, as in other years, under its ordinary guise of a bush trained to a wall. The plant was vigorous and healthy enough, but with its flowers so pendant that the interiors are not visible unless turned up to sight with the hand. This year, however, it has been my good fortune to see an unusually large plant of it that had thrown its stout rampant shoots over the top of a wall buttress and in that position put forth flowers abundantly—nothing could be more charming. At a little distance off one was attracted by the mass of large snowy blossom—some nestling among the large, deep green, handsome foliage, and others resting upon it and upon each other, drawing one on involuntarily to a closer inspection, which was well rewarded by a full view of the interior of so many fine blooms tinged in the most exquisite manner with a soft yet bright pink tint, each petal receiving and imparting beauty to the others.

This fine Tea-scented Rose should be associated with *Maréchal Niel*, the pendant flowers of both requiring a high wall or building to show their full beauty, both being as well worthy of an extra amount of space as they are adapted for it naturally by their free strong growth.—EDWARD LUCKHURST.

THE LATE SHOW AT PRESTON.

SUPPLEMENTARY REPORT.

OWING to the celerity with which our report of the Royal Horticultural Society's Show was transmitted by electric telegraph one or two slight errors crept in; they were so few, however, and generally unimportant that we readily bestow a word of praise on the telegraphic operators engaged at Preston.

A few corrections necessary to be made are the following:—Messrs. Rollisson & Sons, not Mr. Robinson, had the first prize for six Orchids; Mr. Mackellar, gardener to Sir James Watts, Bart., Abney Hall, and Mr. Cowan had the second and third prizes respectively in the class for baskets of Grapes. Mr. Harris, gardener to Mrs. Vivian, Singleton Abbey, had the first prize for the best Queen Pine Apple, which was credited to Mr. Gretton; and for three Pine Apples Mr. Hepper, gardener to C. O. Ledward, Esq., not Mr. Coldward, had the first prize. J. Dodds, Esq., Penwortham, had the chief, indeed the only, prize awarded for Fuchsias; Mr. Barron, Elvaston, had the first prize for a hundred hardy plants—not hardy, and stove, and greenhouse plants, as stated in the report; and Mr. Harding, not Mr. Hardy, had the third prize for *Dracænas*. An official list, however, of the prizes awarded appears in our advertising columns, and to this we refer our readers.

A few of the prominent honours granted after we left the Show may be referred to, also some of the more notable plants and collections, with a fuller reference to the other sections of the Show than it was possible to give last week. To the marvellous collection of specimen plants exhibited by Mr. Shuttleworth a gold Lindley medal was worthily awarded. The collections comprised about forty ornamental-foliaged plants and Ferns, and eighteen flowering specimens. Amongst the latter the good old *Plumbago capensis* was admirably grown; it was a delicate blue floral mass about 5 feet by 3. *Lapageria alba* was remarkably fine, and *Statice* were quite splendid. *Dipladenia Brearleyana* was remarkable by its large richly coloured flowers, and *Allamanda Hendersonii*, *Ixora Colei*, Orchids, and Heaths were all exhibited in excellent style. The flowerless section included *Gleichenias*, grand in size and symmetry, brightened by splendid *Crotons* and a fine specimen of *Yucca filamentosa variegata*, which is quite one of the most effective of variegated plants. *Davallia Mooreana* was very

fine, and still finer was *Nephrolepis davallioides*. One of the finest specimens extant of the true *Cordyline indivisa* attracted much notice, and Palms and Cycads were admirably represented. The collection as a whole was such as we have never before seen arranged by any exhibitor.

A gold Lindley medal was also awarded to Messrs. James Veitch & Sons for their remarkable miscellaneous group of plants—remarkable alike by its richness, variety, and admirable arrangement. Than the noble *Alocasias*—*Veitchii*, with its handsome corrugated leaves nearly 3 feet long, *Thibautiana* and *Warroqueana* with their massive foliage and ivory-like veins—no plants in the Show were more striking. Gorgeous Orchids, curious Pitcher and insectivorous plants, brilliant-coloured *Crotons*, elegant Ferns, fine *Gloxinias* and *Begonias*, &c., were represented in this singularly beautiful and diversified collection. Mr. B. S. Williams was awarded a large gold medal for a smaller but very beautiful group composed of plants of great value. Orchids, *Dracænas*, *Nepenthes*, *Crotons*, &c., were of such quality and arranged in such a manner as to well merit the award granted. The same remark applies to the adjoining collection of Messrs. Rollisson and Sons, for which a gold medal was also awarded. Besides the *Ericas* in this group which were referred to last week, remarkably fine *Dracænas*, Orchids, and *Crotons* commanded much notice. The collections of plants referred to, taken in the aggregate, and arranged as they were near the entrance of the tent, constituted one of the most imposing and most admired features of the Exhibition. Silver medals—a Flora to Messrs. Cranston & Co., and Banksians to Mr. Prince and Mr. Davison—were granted for Roses.

First-class certificates were awarded to Mr. J. R. Pearson, Chilwell, for a beautiful trio of Cape Pelargoniums—Beauty, rosy pink, maroon blotch, white centre; Pixie, dark rose, chocolate blotch, pale centre; and Ariel, rosy crimson maroon blotch and feather, and pale centre. The blotches are on all the five petals of the above varieties, and the plants are dwarf in habit and floriferous. A first-class certificate was, we were informed, granted to Mr. D. Thomson, Drumlanrig, for a fine seedling *Croton*, but we had not an opportunity of seeing the plant. Messrs. Downie and Laird, Edinburgh, exhibited cut blooms of Pansies remarkable for their bright and varied colours and clearly defined lacing, and were commended by the Judges.

We next refer to some of the more noteworthy plants in the competitive collections. The finest specimens were undoubtedly those staged by Mr. Tudgey, gardener to J. F. G. Williams, Esq., and Mrs. E. Cole & Son in the class for sixteen plants, eight of them in bloom. Mr. Tudgey, who won first honours, may now be regarded as the champion specimen plant exhibitor. His example of *Erica Parmentieri rosea*, a perfect globe 5 feet in diameter, is a model of good culture, and *E. tricolor impressa* bore the impress of a master hand. *Ixoras coccinea superba* and *Dixiana*, *Clerodendron Balfourianum*, *Dipladenia amabilis*, and *Allamanda grandiflora* were all well grown and admirably bloomed specimens. The fine-foliaged plants, which consisted chiefly of Palms, Cycads, and *Crotons*, were very large, but some of them were somewhat worn by having been previously exhibited. Messrs. Cole's collection was one of great excellence. The fine-foliaged plants were in splendid condition, surpassing those staged by their rival, but some of the flowering plants were rather weak. The best specimen, and fine it was, was *Ixora Colei*. *Dipladenia amabilis* was very good, as also were one or two *Ericas*. Two *Azaleas*, Brilliant and President, were wonderfully fresh for the time of year but were small. *Crotons angustifolium*, *Weismannii*, and *Johannis* were in brilliant colour, and the Palms and Cycads were in exuberant health. Mr. Tudgey may be justly proud of beating such a meritorious collection. In the class for twelve plants in bloom Mr. Tudgey was the only exhibitor, and staged specimens of the same good quality as those above described. In the class for six plants in bloom, also in that for twelve plants six of them in bloom, Mr. Pilgrim won the chief honours with excellently grown specimens, especially of *Cycas circinalis*, *Latania borbonica*, *Croton longifolium* (fine), *Phormium tenax variegatum*, *Anthurium Schertzerianum*, *Bougainvillea glabra*, *Clerodendron Balfourianum*, and *Stephanotis floribunda*. Heaths were only of moderate size, and the plants were more or less drawn, probably by having been retarded in shaded places. Some good stove and greenhouse plants were staged by local exhibitors in response to several prizes offered by the Preston Nursery Company, but owing to the old and bad system of judging under number and the waste of time it involves in affixing the prizes we could not wait for the awards.

Orchids were not numerous, the season being late for these gorgeous flowers, yet some fine collections were staged. In the amateurs' class Mr. Osman, gardener to R. B. Dodgson, Esq., Blackburn, who won the chief prize in the class for twelve plants, exhibited admirable examples of *Cattleya Warnerii* with thirteen flowers, and C. Mendeli with eleven, *Vanda suavis* seven spikes, *Aerides odoratum* nine spikes, *Dendrobium densiflorum* and nobile, and some very fine *Cypripediums*. Smaller but very good plants were staged by Mr. Mitchell, gardener to Dr. Ainsworth; *Aerides Lobbi* *Ainsworthianum* was very beautiful in this group. Amongst Mr. B. S. Williams's twelve first-prize plants, which were not noticed last week, we observed excellent examples of *Dendro-*

biums formosum giganteum, densiflorum, and Bensoniæ; Cattleyas Mendelii (fine), and Leopoldii; Cypripediums barbatum superbum and niveum; Aërides odoratum majus; Epidendrum vitellinum majus, and Lælia purpurata.

Fine-foliaged plants were excellently represented in the several classes. Noteworthy were remarkably healthy Palms and Cycads from Mr. Pilgrim, well grown and admirably coloured Crotons and fine Ferns from Mr. Rigg, gardener to James Foreshaw, Esq., Fulwood, Preston; capital Crotons, Palms, and Alocasias from Mr. Osman; and remarkably well-grown plants from Mr. Hammond, gardener to Sir Wilfrid Lawson, which were noticed last week. Crotons were both numerous and excellent, nearly all the plants being well grown and in fine colour. *C. angustifolium*, *C. Weismannii*, *C. undulatum*, *C. picturatum*, *C. Johannis*, *C. Rex*, and *C. Disraeli* were amongst the more striking of the specimens; and of the smaller and newer varieties *C. Hanburyanum* and *C. maculatum* Katonii exhibited by Messrs. Veitch; *C. Prince of Wales*, *C. Williamsii*, and *C. Victoria*, exhibited by Mr. B. S. Williams; and *C. Mortii* and *C. roseo-pictum* in Mr. Bull's collection, were much admired. *Dracenas* were stately and rich, and were seen to great advantage on the isolated circular mounds near the water. Messrs. Rollisson's first-prize collection included *Salmonæ*, *amabilis*, *Baptistii*, *Smithiana*, *Nitzschnerii*, *Gladstonei*, *Guilfoylei*, *Youngii*, *Regina*, and *Goldiana*.

Ferns were good, but not grand. Mr. Pilgrim exhibited fine *Gleichenias*, as also did Messrs. Cole and Mr. Dodgson. The Preston Nursery Company staged fresh and healthy Tree Ferns, and Mr. Osman excellent *Adiantums*. Hardy Ferns were well exhibited by Mr. Bolton, Fern Cottage, Warton; Mr. Pilgrim, and Mr. E. J. Lowe. The collections were chiefly composed of varieties of *Athyriums*, *Polystichums*, and *Scelopendriums*.

In the classes for new plants the results both as to plants and prizewinners were repetitions of the classes at previous great shows—Messrs. Bull, Williams, and Rollisson retained their old positions with plants that have been previously enumerated. For Mr. Bull's prizes Mr. Hammond, Mr. B. S. Williams, and Mr. Tudgey again won cups; the maiden cupwinners being the Preston Nursery Company and Mr. McIntyre, gardener to the Hon. A. C. C. Maxwell, Dumfries. Mr. Bull exhibited an unnamed *Lilium* remarkable alike by its great size and rich colour. It is of the *L. auratum* type, the coloured ray down each petal being chocolate crimson. The flower had passed its best condition, yet was very striking.

Florists' flowers were only of moderate quality. Fuchsias were poor, and Pelargoniums were far from superior; but Tuberous Begonias from Messrs. J. Laing & Co., Forest Hill, were represented by the following very fine varieties:—*Gloire de Nancy*, *Lælia*, *John Laing*, *Baron Hruby*, *F. M. don Santos Viana*, a fine variety of the *Pearcei* type; and *Corail Rose*. Nine very finely grown *Gloxinias* were exhibited by Col. Cross, who was the only exhibitor in the class for those flowers.

ROSES.—"As regards quantity," writes "D. Deal," "these were but feebly represented, and had it not been for the extra collections not for competition sent in by Messrs. Cranston, Prince, Corp, and Davison they would have been still more so. Nor is this to be wondered at; the rules prohibited either nurserymen or amateurs from taking more than one prize, not in any one class, but in all the classes. It was not at all likely that the expense, time, and trouble necessary to send or go to Preston would be encountered for the chance, perhaps, of getting £1: hence not one amateur of note was there, the prizes going to some in the neighbourhood, while of our great professional exhibitors—Messrs. Cant, Paul and Son, Keynes, Turner, Mitchell, and Francis were all conspicuous by their absence.

"The collections which were sent in by the exhibitors above named were of first-rate quality—indeed I do not think they have been excelled this season. Notably was this the case with the stand of Louis Van Houtte exhibited by Mr. Cranston. I do not remember having ever seen one to equal it, and how the colour of such flowers is preserved passes my comprehension. I was again in the tent on Thursday afternoon, and yet the freshness and vividness of colour had not departed from those glorious flowers, while in all the stands there was far more staging quality than I thought they could have possessed. In his seventy-twins were grand examples of *Duchesse de Morny*, which has quite taken a first rank this year; *Camille Bernardin*, *Antoine Ducher*, *Etienne Levet*, *Comtesse d'Oxford*, *Mdlle. Marie Rady*, *Xavier Olibo*, very grand; *Duke of Edinburgh*, *Marie Baumann*, *Le Rhone*, *Le Havre*, *Alfred Colomb*, and *Madame Lacharme*. In the class for forty-eights Mr. Prince's collection was a grand one, and taking it altogether was about the most even lot that I have seen exhibited this year; there was not even an indifferent bloom in it, while many of them were superb. I have never seen *Richard Wallace* so well shown as in this stand; there were besides magnificent blooms of *Dupuy Jamain*, *Mdlle. Marie Rady*, so good that it was difficult to distinguish it from a good bloom of *Marie Baumann*; *Baronne de Rothschild*, *Le Havre*, very fine; *Reynolds Hole*, very good; *Mons. E. Y. Teas*, *Auguste Rigotard*, *Madame Charles Wood*, *Comtesse de Nadaillac*, most lovely; *Jean Ducher*, *Souvenir d'Elise Vardon*, which has everywhere been shown grandly this

season; *Niphetos*, &c. Mr. Corp's collection also contained some excellent blooms, amongst them *Star of Waltham*, *Marie Cointet*, *Edouard Morren*, *Mons. E. Y. Teas*, and *Marguerite Brassac*. In the exhibits not for competition there were some grand blooms of well-known varieties, but nothing that calls for special notice."

FRUIT AND VEGETABLES.

FRUIT.—To gardeners, and indeed to many of the visitors, the vegetable and fruit tent possessed the greatest attraction. A prominent, and one might say rather unusual, feature in this tent was the generally good quality of the exhibits. The collections of fruit, though limited in number, were certainly very good, and fully deserved the awards made to them. The class for Black Hamburg Grapes was a particularly good one, fourteen lots being staged, and the prize bunches were in every respect excellent. The Muscats throughout were very fine in bunch and berry; none, however, were really ripe or "finished." The *Madresfield Court* and *Foster's Seedling* were also well shown. There was nothing sensational among the Pines. Only Queens were staged. All were very good, the prizewinners particularly so. The Peach class was a capital one. All three prizes were won with the *Bellegarde*. This variety is undoubtedly one of the best in cultivation, and ought to be in every collection however limited. The same remark applies to *Elruge Nectarines*, of which there were many fine highly coloured dishes both in the collections and in the class for single dishes. There were many larger fruit staged than either *Bellegarde Peach* or *Elruge Nectarine*, which, however, did not find favour with the Judges. Melons were shown in good numbers. A fruit of *Golden Queen* gained the premier award. This good old variety is of easy culture, but seldom of late years has been found placed first in competition with newer varieties. Another excellent old variety—*Conqueror of Europe*—was placed second. The *Khiva Melon* is evidently inconstant, as fruits were staged of various shapes. The Strawberries were very good, but on the whole were not equal to those we have seen at some local shows this season. The dishes of *Oxonian* (by some grown under the name of *Eleanor*) were the most attractive. *British Queen* and *Dr. Hogg* were also well shown. The first-prize collection of ten dishes consisted of the following:—*Marguerite*, *Sir C. Napier*, *Oscar*, *President*, *Eleanor*, *Cockscomb*, *Wonderful*, a *Seedling*, *Dr. Hogg*, and *Sir Harry*.

VEGETABLES.—Some of the collections of vegetables, notably those which gained two first prizes for Mr. Miles, were beautifully staged, and the vegetables were of the finest quality. Mr. Miles's Carrots, Peas, and Tomatoes were excellent. The schedule offered no inducement for superior staging, but it is very probable that a liberal use of Parsley influenced the Judges in their decision with regard to the second-prize collection staged for the Society's prizes, as this collection we thought inferior to others in the same class which received no award. Cucumbers generally were not superior. Exhibitors, as in this instance, too frequently err in staging too large overgrown specimens. Tomatoes were shown well, a round good-shaped variety of the *Excelsior* type receiving the preference from the Judges. The Peas generally were very fine, those shown in competition for Messrs. Carter's prizes—viz., *Culverwell's Telegraph*, *Carter's Little Wonder*, and *Challenger*, being remarkably so. These varieties were largely shown in the other classes; also *Laxton's Supplanter*, *Criterion*, *Ne Plus Ultra*, *Dr. McLean*, *Suttons' Giant Emerald Marrow*, and *Duke of Edinburgh*. The competition for three varieties of Potatoes was very spirited. The first-prize collection consisted of *Snowflake*, *Porter's Excelsior*, and the *Waterloo Kidney*. A dish of the *Prince of Wales Kidney* was very good. White *Tripoli Onions* were very fine indeed, and there was some very good unnamed white Celery exhibited. Cauliflowers throughout the Show were much too large. Some excellent Turnips were shown, the best being *Suttons' Snowball*. Messrs. Sutton & Son's prizes for collections of vegetables did not attract much competition, but this is accounted for from the fact of their conditions necessitating the competitors growing their vegetables in the open air, and certain stipulated varieties were too late this season. The idea is a good one, as it gives gardeners with a limited quantity of glass a better chance against their more favoured rivals.

IMPLEMENTS.—The principal collections were referred to last week. Messrs. R. Halliday & Co. were awarded the gold medal for a collection of glass structures, and a silver medal for garden appliances, which included boilers and improved valves for hot-water pipes. Messrs. W. Rollisson & Co. were awarded a silver medal for a combined water and plant barrow, a very useful aid to nurserymen and gardeners. Besides the collections previously noticed we observed the patent paragon greenhouse and other structures glazed without putty, exhibited by Messrs. Horley of Toddington, Beds. Mr. J. H. Critchley of Cheltenham exhibited specimens of patent hot-water regulators, and a brass model of the large boilers in the Palm stove at Kew, shown by Messrs. Simpson & Co. of London. Mr. Matthews of Weston-super-Mare exhibited an extensive display of garden pottery. Fumigators, waterproof labels, paper flower pots, &c., were shown by Messrs. Blake & Mackenzie of Liverpool. Water engines and hose reels

from James Quin & Co. Samples of peat came from Mr. W. J. Epps of Vauxhall, and Messrs. James Fraser & Co. of Leighton Buzzard.

Although as an exhibition the Show was a success the administration of it, especially as regarded the system of judging and placing of the awards, was very faulty. It is probable that the Royal Horticultural Society will at future shows retain more of the management in the hands of their own officials, as local administrators, however zealous they may be, cannot be expected to carry out the details of a Show of such magnitude smoothly and well.

The fixture of the Show proved somewhat unfortunate. The weather on the opening day was unpropitious, and on the second day the opening of the Winter Gardens at Blackpool by the Lord Mayor of London attracted many thousands of local visitors; yet we are glad to learn by a special telegram from Preston that the Show is regarded there as a success and is expected to clear itself financially. The admissions on Wednesday (a dull showery day) were 460; on Thursday (the Blackpool demonstration), 1123; on Friday, 5140; on Saturday, 12,320; on Sunday, 520; and on Monday (an extra day), 5032. Total, 24,595.

To Mr. Troughton and all the officials of the Show we are indebted for much courtesy; and the Exhibition was rendered enjoyable by the excellent order kept by a detachment of the metropolitan police. We hope at the next provincial to find metropolitan—i.e., South Kensington and Chiswick officials, discharging their usual duties in their wonted smooth and efficient manner.

OUR BORDER FLOWERS—COMPOSITES.

WE may say of this family that they would require a field of no very small dimensions to cultivate them, but there are many of the family that are useful for decorating our borders and other places in the spring and summer time. Some of them we find to be indispensable for flower garden purposes, and in other ways we find them useful, not the least being for cutting from for indoor decoration, and some of the species have done us good service on the exhibition table. The species vary much in stature; some are small and compact, others are almost of unruly dimensions.

White and yellow are the predominating colours of the Achilleas, the name of which is said to be derived from Achilles, a disciple or pupil of Chiron, who first used the plant for the healing of wounds. The Sneezewort (*Achillea Ptarmica*), when dried and converted into fine powder and taken as snuff produces sneezing. *Achillea Ptarmica plena* is a very useful border flower in dry situations. It is said of our common Milfoil (*Achillea Millefolium*) that water and proof spirits extract the virtue of this plant, and by distillation it yields a penetrating essential oil, possessing the peculiar flavour of the plant in perfection. It is also said that it possesses narcotic properties, imparting to beer an additional intoxicating quality. I have known inveterate smokers use it as tobacco. *Achillea compacta* is a very striking plant with its great yellow plate-like flower heads. In open spaces in the shrubbery or other places when once well established it lasts a long time. It is not at all particular as to soil, and requires staking to keep it from being broken by the wind, as it attains the height of from 4 to 5 feet. The dwarfier kinds, as the Golden Milfoil (*Achillea aurea*), is a fine late summer and autumn border and edging plant, deserving of extensive cultivation. The Silver-leaved Milfoil (*Achillea Clavennæ*), is one of the most effective of bedding or edging plants we possess. It is useful also for pot culture for indoor decoration.

There are others of this numerous family that are equally useful for edging purposes. The red variety of our common Milfoil (*Achillea rosea*), is a showy border flower, and lasts a long time in flower. The variegated form of *Achillea Millefolium* would be seen more frequently if its merits were sufficiently known.

A word for our Downy Milfoil (*Achillea tomentosa*), and then I must leave the family. It is a fine plant of very dwarf habit for rockeries, borders, or pots; but is most at home on the limestone. Some of them are increased by seed, and all may be increased by division in the spring when growth is commencing.—*VERITAS*.

IMPRESSIONS OF THE NATIONAL ROSE SHOW.

IN your number of the 4th inst. "A. C." gives us his impression of the National Rose Show, and he makes particular mention of Jean Liabaud, for, although admitting its wonderful colour, he states that it is "inferior in form to the good old Camille de Rohan."

I have had a fortnight's acquaintance with Jean Liabaud.

Since it gladdened me with its first bloom my first visit every morning has been paid to it, and my last one in the evening. I find my steps involuntarily tending in its direction in order that I may get another and yet another view of the grandest velvety Rose which, in my humble opinion, has ever been raised; and as to invidiously comparing it with Camille de Rohan, all I can say is that I heartily wish "A. C." had seen the glorious blooms of Jean Liabaud which I have regarded so lovingly. Its wondrous colour and perfect form, its fullness and free-blooming, will place Jean Liabaud, I firmly believe, in the front rank of the velvety class. My plant is on the Manetti.—C. W. MILNE, *The Rosery, Selby Park*.

WEST KENT HORTICULTURAL SOCIETY.

JULY 13TH.

THE annual Exhibition of this Society was held at Widmore, Bickley, on Saturday last. The site chosen for the tents was an admirable one, the weather was splendid; the temperature under canvas was perhaps a little too warm, but the grateful shade under some fine old trees where the numerous visitors congregated to enjoy the music afforded full compensation. The Exhibition was displayed in four tents. The first, a very large one, contained several elaborate collections of plants from our leading nurserymen; the second was filled with productions of both the gardeners and cottagers (principally plants); the third marquee was set apart for dinner-table decorations, bouquets, button-holes, &c.; and the last tent, but by no means the least, was well filled with Roses, fruit, and vegetables.

In the large tent Messrs. Veitch & Sons occupied the centre stage at one end, and Messrs. Laing & Co. the other end. About midway on either side were extensive collections from Messrs. Carter & Co. and Mr. Wills, Anerley Nursery. Messrs. Rollisson and Sons staged a very effective group in another tent, and the collections from Mr. Ley of Croydon, and Messrs. F. & A. Smith, Dulwich, were very prominent. The whole of these collections commanded much attention, for in them were to be found the cream of the new and rare plants with which our nurseries abound—plants which we hope by-and-by to see in larger-grown specimens at future exhibitions.

Roses constituted one of the principal features of the Show. Near the entrance were a dozen boxes not for competition from the Putney Vale nurseries of Messrs. Veitch & Sons; amongst them we noticed fine examples of *Souvenir de Monsieur Boll*, *General Von Moltke*, *Pauline Talabot*, *Jean Souper*, *Mlle. Eugénie Verdier*, *Duchesse de Vallombrosa*, and *Rev. Reynolds Hole*. In competition for forty-eight varieties three trusses of each, for which prizes to the value of £5, £3, and £2 were offered, also for twenty-four varieties, distinct, and twelve Roses of any one variety, those veteran growers Messrs. Paul & Son of Cheshunt and Mr. Cant from Colchester were placed first and second respectively in each class for exquisite collections. Messrs. Paul and Son's forty-eight trebles comprised *La Duchesse de Morny*, *Mons. Boncenne*, *Baronne de Rothschild*, *Senateur Vaisse*, *Centifolia Rosea*, *Maurice Bernardin*, *La France*, *Mlle. Prosper Langier*, *Charles Lefebvre*, *Queen Victoria*, *Pierre Notting*, *Mlle. Marie Rady*, *Olivier Delhomme*, *Mlle. Eugénie Verdier*, *Louis Van Houtte*, *Abel Grand*, *Henri Ledechaux*, *Monsieur E. Y. Teas*, *Mlle. Thérèse Levet*, *Camille Bernardin*, *Marie Louise Pernet*, *Elie Morel*, *Devienne Lamy*, *François Michelon*, *Duke of Edinburgh*, *Marguerite de St. Amand*, *Exposition de Brie*, *Annie Laxton*, *Duc de Rohan*, *Princess Beatrice*, *Edouard Morren*, *Jean Liabud*, *Mme. Hippolyte Jamain*, *Marie Baumann*, *Felix Genero*, *Marguerite Brassac*, *Niphotos*, *John Stuart Mill*, *Marie Finger*, *Abel Carrière*, *John Hopper*, *Alfred Colomb*, *Star of Waltham*, *Xavier Olibo*, *Comtesse de Serenye*, *Horace Vernet*, and *Reynolds Hole*. Mr. Cant's collection contained splendid blooms of *Madame Charles Wood*, *Etienne Levet*, *François Louvat*, *Dupuy Jamin*, *Louise Peyronny*, *Madame Sophie Tropot*, and *Ville de Lyon*. Mr. Coppin, Croydon, was awarded the third prize in this class; and in the class for twenty-four varieties it fell to Mr. Laing, Forest Hill, both showing very good collections. A splendid box of *Baronne de Rothschild* from Mr. Cant was awarded the first prize for twelve Roses of one variety, Mr. Coppin taking the second place with *Marie Louise Pernet*, and Mr. Laing third with *Marie Baumann*. Several other boxes of Roses not for competition were staged by Messrs. Laing and Coppin, and were very much admired, especially those dark Roses *Louis Van Houtte* and *Reynolds Hole*, of which these stands contained grand examples.

In the classes set apart for amateurs Captain Christy, Westerham, Kent, was an easy first with a very even box of twenty-four blooms, distinct, composed of *Madame Clémence Joigneaux*, *Baronne de Rothschild*, *Mlle. Marie Rady*, *Capitaine Christy*, *Mlle. Eugénie Verdier*, *Edouard Morren*, *La France*, *Dr. Andry*, *Louis Van Houtte*, *Marquise de Castellane*, *Alfred Colomb*, *Duke of Edinburgh*, *Abel Grand*, *Comtesse de Serenye*, *Dupuy Jamin*, *Madame Hippolyte Jamain*, *Prince Camille de Rohan*, *Felix Genero*, *Camille Bernardin*, *Marguerite de St. Amand*, *Marie Baumann*,

Madame Charles Crapelet, Madame Thérèse Levett, and François Michelon. Mr. Moore, gardener to W. C. Pickersgill, Esq., was awarded the second prize, and Mr. Maynard, gardener to J. Whitehead, Esq., third. For twelve Roses, distinct, Messrs. Talmage, Field, and Cole were placed in the order of their names; and for six of any one variety Captain Christy won the first prize with Marie Baumann.

PLANTS.—Substantial prizes were offered both for stove and greenhouse plants, fine-foliage plants, and for show and fancy Geraniums; but the Show is held too late in the season for many large flowering plants, particularly Pelargoniums. The nine fine-foliage plants from Mr. F. Moore were excellent; *Livingstonia altissima*, *Croton Weismannii*, *Alocasia metallica*, *Cycas revoluta*, *Marantas Veitchii* and *Makoyana*, *Cocos Weddelliana*, *Areca lutescens*, and *Alocasia macrorrhiza variegata* were in admirable condition. Mr. Gammon was placed second and Mr. Mumford third. Mr. Mumford staged an exquisite group of flowering and fine-foliage plants, amongst which were two very large specimens of *Allamanda Hendersonii*, *Anthuriums*, *Begonias*, *Orchids*, *Dracenas*, &c. Mr. Coppin took the principal prizes in all the classes for Geraniums. Both flowering and foliage *Begonias* were well staged; Messrs. Talmage, Sawyer, and Gammon were the principal prizetakers. *Lycopodiums* came from Mr. Pepper, gardener to G. W. Norman, Esq.; they were very good indeed, and well deserved the first prize awarded to them. For a single specimen *Lycopodium* Mr. Talmage won the first place with a large plant of *L. Martensii variegatum*. *Caladiums* and *Gloxinias* were extensively shown and well finished. Messrs. Bridger, Maynard, and Mumford secured the prizes for *Gloxinias*; and Mr. Mumford, Mr. Bridges, and Mr. Archer in the order of their names for *Caladiums*. Hardy Ferns were particularly fine, and Mr. Moore's huge single specimen Fern of *Davallia Mooreana* commanded general approbation. This plant is quite 8 feet in diameter and in the perfection of health.

FRUIT.—This was not extensively exhibited, but was of a fair average quality. For a collection of six dishes Mr. W. Pepper took first honours, and Mr. J. Horwood, gardener to J. L. Lovibond, Esq., the second. The best three bunches of black Grapes came from Mr. J. Maynard, gardener to J. Whitehead, Esq., and the best Muscats from Mr. Pepper. Peaches and Nectarines were fairly exhibited, and Strawberries numerous considering the lateness of the season. Mr. John Archer was placed first for a Melon, Cox's Golden Gem, and Messrs. Clifford and Pepper were second and third respectively.

VEGETABLES.—For a collection of nine sorts Mr. Gammon took the first prize, C. L. Norman, Esq., the second, and Mr. Maynard the third, all exhibiting excellent produce. For six dishes Messrs. Archer, Eke, and Cole were placed in the order of their names; they also held similar positions in the class for a collection of salads. Cucumbers were plentiful and good, the prizes falling to Messrs. Pepper, Eke, and Gearing. A splendid collection of vegetables and a dozen sorts of Potatoes not for competition staged by Mr. J. Neighbour, gardener to G. Wythes, Esq., deserve notice: had they been placed in competition it is certain they would have wrested first honours from the other competitors. We also noticed several good collections of flowering and foliage plants from the same exhibitor, but not in competition. Mr. Cannell of Swanley exhibited several boxes of cut flowers of *Verbenas* and double and single *Geraniums*.

Dinner-table decorations were on the whole very tastefully arranged. Button-holes were good, but the hand bouquets were generally poor. Mrs. Wood, Bank Grove, Bromley, was awarded the first prize for dinner-table decorations, wild flowers and Grasses alone being used. This was very chaste and pretty, blue Cornflower and Grasses preponderating. Miss Beatrice Turner, Knockholt, was placed second for a table more heavily arranged. Miss Lovibond was awarded the first prize for a single decoration for the table, Miss Whitehead the second, and Miss Lucy Thompson, Swallowfield, the third prize: all showed great taste in their arrangements. For a vase or ornamental basket of cut flowers the prizes fell to Miss E. Lovibond and Miss Lovibond, who were placed first and second respectively. Miss Lovibond also won first honours for arranging the flowers for the larger dinner-table decoration, Miss Boosey and Miss Whitehead being placed second. An extra prize was deservedly awarded to Miss J. Scott, Abbyfield, for a decoration for a sideboard. The arrangement consisted of one large centre trumpet vase, two smaller end pieces, and four lesser vases at the corners. The arrangement was very light and beautiful, and the principal flowers used were white Lilies and Cornflowers, relieved with the foliage of the variegated *Acer* and fronds of *Adiantum cuneatum*.

The Exhibition was well arranged, and was attended by a very large number of visitors.

NOTES AND GLEANINGS.

WE have received the schedule of the NATIONAL CARNATION AND PICOTEE SOCIETY'S SOUTHERN SHOW, which is to be held at South Kensington on the 23rd inst. The prizes

offered are both numerous and liberal, and the classes are so arranged as to give encouragement for both large and small growers to compete. The prizes are open to all exhibitors whether subscribers or not on giving four clear days' notice to Mr. E. S. Dodwell, Hon. Secretary, 11, Chatham Terrace, Larkhall Rise, Clapham, S.W. To obtain uniformity it is urged that the collections be shown in each case in boxes, of which, for twelve, the following are the dimensions—viz., three rows of four each, from centre to centre $3\frac{1}{2}$ inches; from centre to outside, $2\frac{1}{4}$ inches; outside length, $15\frac{1}{2}$ inches; width, 12 inches; depth, $4\frac{1}{2}$ inches; to be painted a bright green. The collections of sixes should be in three rows of two each; with the flowers at the same distance from centre to centre, and centre to outside, as in the collections of twelves. The collections of twenty-fours may be composed of two boxes of twelves, making three rows of eight in each row, or in one box as may be convenient to the exhibitor, but the same space should exist between the flowers. We hope to see a large display of these beautiful and sweet hardy flowers. The Society's Northern Show will be held in the Manchester Botanical Garden on August 3rd, 5th, and 6th. Of this section the Rev. F. D. Horner, Kirkby Malzeard, Ripon, is the Hon. Secretary.

— HER MAJESTY THE QUEEN AND H.R.H. THE PRINCESS BEATRICE visited MR. CHARLES TURNER'S NURSERIES at Slough on Tuesday last, and greatly admired the Roses, Carnations and Picotees, *Verbenas*, *Fuchsias*, and the flower beds, all of which are now in full beauty.

— A PROOF copy of the entries for the NEWCASTLE SHOW which opens this day (Thursday) and continues over Friday, suggests that the Show will be a good one. The Rose entries are especially numerous, and include such famed exhibitors as Messrs. Cranston & Co., Paul & Son, Prince, Davison, Corp. Harrison, and May. The entries represent upwards of two thousand blooms, so that Roses will constitute an important feature of the Exhibition.

— WE shall be glad if any of our readers could inform us of the HISTORY OF THE LORD SUFFIELD AND STIRLING CASTLE APPLES; where and when they were raised, or any other particulars respecting them.

— MR. MOORMAN, writing from Coombe, says that the POTATO DISEASE has severely attacked some of the Potatoes grown under his care, particularly Snowflake. The disease has been very noticeable in the foliage for some days, and the tubers are also much affected. Several tubers of Myatt's Ashleaf are also found diseased; but the haulm of Snowflake has nearly decayed. He intends lifting the early crops at once, thereby hoping to save the tubers that are not affected.

— A BALTIMORE correspondent replies as follows to "ONE IN A FIX" as to PARAFFIN LAMPS:—A lamp is made in Baltimore, U.S.A., that never deposits any soot nor does it in any way blacken the bottom of the boiler. Prices from 5s. to £1. I will send a descriptive prospectus as soon as printed and order a lamp if desired. This lamp will give a degree of heat up to 500° Fah., and melt copper wire like sealing wax, and is quite safe. Cost of oil about 2d. a day.

— THE daily production of MUSHROOMS in and around Paris when the beds are in full profit is stated to be about twenty-five tons. The Mushroom caves, together with the beds in the market gardens, not only supply the Paris markets, but large quantities are exported to England and other parts of Europe, one house alone in Paris sending fourteen thousand boxes annually to London. A single French firm uses over two hundred tons of Mushrooms per annum, mostly for preserving.

— MR. W. LOVEL-CAMERON has sent us a photograph of a splendid specimen of *LILIU GIGANTEUM* which is growing in his garden near Ross, Herefordshire. The plant, which appears quite tree-like, is surmounted with, so far as we can perceive, twelve flowers. Several weeks ago we saw a similar specimen in Mr. McIntosh's garden at Duneevan. The stem of the plant then exceeded 8 inches in circumference measured at a foot from the ground. Such stately specimens of this fine Lily produce a grand effect in any garden where they can be so well grown.

— AT a recent meeting of the Royal Geographical Society Mr. W. T. Thistleton Dyer delivered a lecture on PLANT DISTRIBUTION AS A FIELD FOR GEOGRAPHICAL RESEARCH. The transference of plants from one part of the earth's surface to

the other was, observed the lecturer, brought about by the aid of the winds, migratory birds, and the currents of streams. Botanists would ultimately be able to distinguish the characteristic of plants which had existed in ages long gone by in the same manner as physiologists discovered the shape and nature of antediluvian animals. Owing to the varied and irregular conformation of the earth and to other causes, which made certain plants spread over portions of ground previously occupied by others, no broad areas of uniform vegetation were to be found on the globe, while geological disturbances had isolated at different periods groups of plants from their fellows. The plants now existing were, to an enormous extent, the descendants of plants of the most remote antiquity, and it was likely that in their case, as in that of animals, the great primal divisions of earth would be found to have been to a great extent maintained to the present day. The lecturer next alluded to the herbarium at Kew. Several valuable additions to the herbarium have been made by various travellers, among them Col. Grant, Dr. Kirk of Zanzibar, and others. Mr. New had brought from the top of Kilimanjaro some plants which on examination proved to be of the same species as those found by Commander Cameron on the other side of Africa. A tree brought from the Isle of Amsterdam by Commodore Goodenough in 1873 was discovered to be of the same species as certain trees in the small island of Tristan D'Acuna, five thousand miles away. That botanical knowledge was of value economically was shown in the discovery of an indigenous Tea plant in Assam; for the want of it the Dutch had imported into Cinchona a spurious and valueless plant, which they had supposed to be tea. Again, the opinion had obtained for a long time that the Latakia and Cuba Tobaccos were different from the more ordinary kinds of the weed, whereas on the seeds being examined they were found to be perfectly similar. It was now known that all commercial Tobaccos belonged to the same class. In the case of some grass brought from Jamaica the botanists were able to show, on discovering its efflorescence and seeds, that it was suitable for paper-making. There could be no more important or interesting task than to unravel the botanical mysteries of Africa, which were still to the student of nature a *terra incognita*, and in this he hoped to obtain the co-operation of the Society.

— MR. WILLS of South Kensington decorated the Charing Cross Railway Station for the RECEPTION OF THE EARL OF BEACONSFIELD on his return from the Congress of Berlin on Tuesday. Over ten thousand plants were used, many of them 20 feet high, and part of the decoration consisted of three thousand Roses.

— THE annual summer Exhibition of the CROYDON HORTICULTURAL SOCIETY was held in the Fairfield, Croydon, on the 10th inst., and is acknowledged to have been the best summer Show ever held by the Society. The productions were above the average, and amongst the principal exhibitors and prizetakers are the familiar names of Mr. T. N. Penfold, gardener to the Rev. Canon Bridges, Beddington House; Mr. Chaff, gardener to C. H. Goshen, Esq., The Ballards, Shirley; Mr. Orchard, gardener to F. W. Harris, Esq., Coombe; Mr. King, gardener to S. Clarke, Esq., Croydon Lodge; Mr. Fewell, gardener to J. C. Lanyon, Esq.; Mr. Glasscock, gardener to F. Banbury, Esq., Shirley Park; and Messrs. Roffey, Hamblin, Brice, and Charman were prominent. Both stove and greenhouse plants and fine-foliage were very extensively and admirably exhibited; in fact, the same remarks will apply to almost every class in the schedule, for it was difficult to find an inferior collection. We congratulate this Society on their success. The Exhibition has clearly shown that there are some good gardens and gardeners in the neighbourhood of Croydon.

— A LARGE proportion of the area of the Bahama Islands is devoted to the cultivation of FRUIT, of which Oranges and Pine Apples are the principal, and at the present time the fields in the estates on which the Pine Apples are growing form a peculiar feature in the landscape. The appearance of the broad expanse of young fruit, with its clusters of delicately tinted but sharp and serrated leaves, rising only a short distance from the ground, and covering the undulating fields, produces a very remarkable effect. In no other branch of agriculture can so curious a picture be produced as in the growth of these vast numbers of Pines. As many as a million and a half of the fruit have been collected from a single acre at one crop. The appearance of these Pine Apple estates has as little in common with sugar plantations or paddy fields of the tropics as with the corn fields or vineries of Europe. In a few weeks

these Pine Apples will be making their appearance in the English markets. They are shipped in an unripe state and mature during the voyage, and hence are not so excellent in quality as the English hothouse fruit, or as if they were properly ripened in the ground. The Pine Apples of New Providence, however, are superior to any other variety, and often attain an enormous size. One, grown in Pembroke-shire, weighing 10½ lbs., and measuring 10½ inches in height, exclusive of the stalk and crown, and 22 inches in circumference, was served up at the Coronation banquet of George IV., and since then the improved modes of cultivation have greatly increased the size and quality of the fruit. There is an enormous demand for the Bahama Pine Apples both in Europe and America.—(*The Colonies and India*.)

PORTRAITS OF PLANTS AND FLOWERS.

HEMANTHUS MANNII. *Nat. ord.*, Amaryllidaceæ. *Linn.*, Hexandria Monogynia. Flowers crimson.—“The leaves, as in *H. multiflorus*, grow upon a special stem, which is produced after the scape, and do not arrive at maturity until after the flowers are faded. It was gathered in April, 1861, by Mann, on the banks of the Bagroo river, but was not introduced into cultivation until last year, when it was sent to Mr. Bull from Liberia by his collector Mr. Carder. It flowered at Kew this present spring.”—(*Bot. Mag.*, t. 6364.)

FRITILLARIA ARMENA. *Nat. ord.*, Liliaceæ. *Linn.*, Hexandria Monogynia.—“The drawing was made from a living specimen received at the end of March from Mr. George Maw, who procured the bulbs from Jas. Zohrab, Esq., the British Consul at Erzeroum. We have dried examples in the Kew herbarium from the same gentleman and from two other collectors, Aucher Eloy (from whose specimens Boissier's diagnosis was made), and Huet du Pavillon. The latter localises it on the Tech-dagh above Erzeroum at an elevation above sea level of from 7000 to 8000 feet.”—(*Ibid.*, t. 6365.)

LEUCOPOGON VERTICILLATUS. *Nat. ord.*, Epacridæ.—“The great beauty of *L. verticillatus* is due to the tender rose colour of the young leaves, which appear in drooping masses surrounded at the base with rigid sheathing scales. The flowers are very minute. Sir J. D. Hooker was indebted to Isaac Andrew Henry, Esq., for a living specimen of this remarkable plant, which flowered in autumn of last year. It was raised from seed sent from Western Australia, where the species inhabits the country from King George's Sound to Swan River.”—(*Ibid.*, t. 6366.)

GRIFFINIA ORNATA. *Nat. ord.*, Amaryllidaceæ. *Linn.*, Hexandria Monogynia.—“This new Griffinia, for horticultural purposes, surpasses all the other known species with the exception of the very rare *G. dryades*. It is a typical Griffinia, most like the old well-known *G. hyacinthina*, but is much more robust in habit, with more numerous larger leaves with closer cross-veining, and larger flowers mounted on long pedicels. Like all the other species, it is only adapted for stove cultivation. It was first imported by Mr. Bull in 1875 from the neighbourhood of Rio Janeiro. In the Kew collection it flowered in February, 1878.”—(*Ibid.*, t. 6367.)

MASDEVALLIA POLYSTICTA. *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—“*M. polysticta* was introduced from northern Peru by M. Roelz in 1874, along with *M. melanopus* and a hitherto unfigured species, *M. caloptera*, *Reichb. f.* It has flowered in Mr. Williams' nursery and at Kew and elsewhere in the winter months.”—(*Ibid.*, t. 6368.)

CLEMATIS GREWIEFLORA. *Nat. ord.*, Ranunculaceæ. *Linn.*, Polyandria Polygynia.—“The Himalaya Mountains are the head-quarters of the genus Clematis in respect of number and variety of forms, and many of the species are of great beauty. Witness the *C. montana*, *C. graveolens*, *C. smilacifolia*, *C. barbellata*, and others not hitherto introduced, though none of them attain the size or have the beauty of colour of the Japanese species of the Florida and Fortunei set. Most of the above are perfectly hardy; this is not the case with *C. Grewieflora*, which requires a cool greenhouse, when it forms an immense rambling climber, which at Kew ascended in a few years to the gallery of the Temperate house, along the rail of which it ran for many feet, flowering profusely in early spring. The species is very nearly allied to *C. Buchanania*, also a Himalayan species, under which name it was received from the Calcutta Botanic Gardens about twelve years ago. It, however, differs from that plant in its much more dense clothing of villous fulvous hairs, as also in the shape of the leaflets. It has a very wide Himalayan range, being common towards the

base of the range from Kumaon to Bhotan, ascending to 4000 feet elevation. In Sikkim and East Nepal I found it flowering in November. A variety is found in Kumaon with almost white pubescence."—(*Ibid.*, t. 6369.)

CLEMATIS INDIVISA LOBATA.

HYBRIDS so numerous and so beautiful of this fine genus of plants could scarcely fail in causing some of the less gorgeous species being comparatively overlooked, yet many of these are highly desirable for various purposes of garden and shrubbery decoration. "Several of the more free-growing species of Clematis," says Mr. Thompson in his "Flower Garden," "are old favourites in our gardens, particularly the *C. flammula*, or white sweet-scented, which is of so rapid a growth that in a single season it will cover an arbour or trellis of some extent; and the purple *C. viticella*, a still older species, which when



Fig. 7.—*Clematis indivisa lobata*.

well managed, is one of the most elegant and ornamental of hardy climbers. Among other interesting species worth cultivating are the *C. crispa*, recently introduced from North America, with pale fragrant blossoms; *C. graveolens*, from Chinese Tartary, with yellow flowers; *C. montana*, and its variety *grandiflora*; *C. cirrhosa*, an evergreen species from Spain, with whitish blossoms, produced very early in the spring; *C. Hendersonii*, with flowers of a fine violet blue, one of the most desirable of the genus; and *C. austriaca*, *C. sibirica*, and *C. verticillaris*, three species formerly known under the name *Atragene*, but now united to Clematis. Perhaps the most showy species yet introduced is the *C. indivisa* var. *lobata* (fig. 7), with pure white blossoms 3 inches across, and bright red anthers. In its native climate, New Zealand, it quite festoons the trees for 15 or 20 feet from the ground with its dense foliage and large panicles of flowers. It is said to require a greenhouse, a statement we shall regret to see confirmed. Certain it is that some of the plants introduced into England from New Zealand require with us but little protection, unless in very severe weather."

We shall be glad to hear if this beautiful New Zealand Clematis has been successfully cultivated in British gardens.

THE PRESTON SHOW.

As far as the exhibits were concerned the Royal Horticultural Society's meeting at Preston was undoubtedly a success. The Committee's arrangements and system, however, were anything

but perfect. I, for one, quite expected to see everything carried out in the well-arranged system followed at Kensington. More especially in the vegetable and fruit tent all was confusion at Preston, as no one knew where to stage. Luckily there was plenty of space allowed or matters would have been worse. Why not have adopted the simple plan followed at Kensington—*i.e.*, to have marked out the spaces allowed for each collection, and also for the single-dish classes? Again, why follow the nearly obsolete custom of placing numbered cards only to each exhibit, instead of following the Kensington system? At the latter place the exhibitor has one number only throughout and receives a properly filled card containing name, address, class, &c., these are placed face downward with the exhibitor's number on the back: to each exhibit the Judges make their awards, which are at once entered, and in their presence an assistant places a simple prize card, turns over the exhibitor's card, and the work is done. At Preston the prize cards had all to be filled up, &c., which entailed much work, and after all was very imperfectly carried out. The Committee were very hard-working and obliging, but were far from being practical. It seems strange for the Royal Horticultural Society when holding provincial meetings to have so little to do with the management. In all probability the Local Committees little know what they undertake, or they would much rather leave to Mr. Barron and his men what to them is, if not a light, at all events not a difficult task.—EXHIBITOR.

SINGLETON ABBEY,

THE RESIDENCE OF MRS. J. H. VIVIAN.

AMONGST the many gentlemen's residences which cluster round the great commercial seaport town of Swansea none possess more horticultural interest than Singleton, with its beautiful climber-covered walls, rare Coniferae, fine fruit, and splendid situation. The house stands about two miles and a half from Swansea, and commands a delightful view of the bay, and has a background of picturesque woods and hills. It is easily reached by road from Swansea, and the visitor will not have seen much of the place until it becomes evident that originally a very great amount of good taste and prudent forethought must have been brought to bear on its construction, and it is pleasing to observe that all that has been done in the past is duly appreciated at the present time.

The house itself is of modern construction, it having been built and the whole place made by the late Mr. Vivian. The front door is surrounded with a spacious yard or wide piece of gravel, and this is belted with trees and evergreens, amongst which *Chimonanthus fragrans* and *Viburnum Tinus lucidum* have grown into conspicuous specimens. On the south front, represented in the engraving (fig. 8) there are many flower beds, grass terraces, and trees of numerous sorts. In some of the beds Tom Thumb and Flower of Spring Geraniums stand out all the year round, and they look better now than plants that have been protected. *Magnolia conspicua* and *M. grandiflora* grow luxuriantly and flower abundantly as standards.

The climbers growing against the house attract much attention. As if to throw all the others into the shade *Pittosporum Tobira* has ascended 20 feet with the same width, and it produces its lovely scented flowers in great profusion. The yellow and white Banksian Roses have grown most luxuriantly, as they are about 40 feet high and cover a large space. The Malmaison Rose has also grown about 20 feet, and so has the Lemon-scented Verbena. Flower beds abound on both the south and west sides of the house, and some of these are effectively filled with Geraniums, Calceolarias, Verbenas, &c., but many of them contain old-fashioned Petunias, Heliotropes, Carnations, and other sweet-scented flowers. Magnolias are forming fine standards on the west side of the house; *M. conspicua* has attained a height of 25 feet and the same in width.

Close to the flower beds attached to the house and elegantly draped with climbers is the conservatory, a structure 60 feet in length. It contains some fine specimen Camellias, Tree Ferns, Orange trees, and many other plants; but here there is no need to go under glass to find rare specimens of vegetation, as they adorn every nook and corner in the open air. Several of the Indigoferas are doing good service as climbers against the end of the conservatory, and so is the Climbing *Devoniensis* Rose, which flowers very freely and is never pruned or restricted in growth in any way. Many of the finer sorts of Clematis are also used as climbers. On the west side of the conservatory there are some splendid specimens of Camellias both growing in boxes and planted out in the ground. The position is rather

exposed to the sea, which is only about 400 yards away, and the winds sometimes injure the leaves of some of the trees, as is the case with some Hollies, Laurels and Bays close to the Camellias, but not a leaf of the latter has been touched, and here the Camellias are regarded as the hardiest of shrubs.

Going northwards from the conservatory by shaded walks beautifully overhung with choice trees and shrubs we come to the archery ground, a fine piece of grass, and pass on to another flower garden. There are no finely trimmed carpet beds here, but there are many features equally attractive. Round the centre fountain all kinds of sweet flowers are growing luxuriantly, and Roses hang in long wreaths from pillars. In the bed which surrounds the fountain *Yucca gloriosa* is finer than ever we saw it, and so is *Y. filamentosa*, many dense clumps of them being as much as 24 feet in diameter, and the mass of flowers which they produce has a very imposing appearance.

The lawn tennis court is situated at the end of the archery ground. Looking through a long vista of trees we find a most effective terminal group of Palms, including grand specimens of *Latania borbonica*, *Seaforthia elegans*, *Sabal umbraculifera*, also *Dracæna Cooperii* and *D. australis*. As an edging to this tropical-looking bed fine plants of *Begonia Rex* appeared to great advantage, as they were growing freely and were finely coloured. From the west side of the house a walk leads to what is called the Crategus garden, which contains fine specimens of nearly every species of the Hawthorn. Time, however, would not allow us to inspect this fine collection, and we could only look in their direction and at the same time admire the beautiful wood of Clyne and the magnificent castle of W. G. Vivian, Esq., which lay in the distance. Still going north from the house we arrive at another flower garden; but like the others there were no glaring masses of colour, the beds

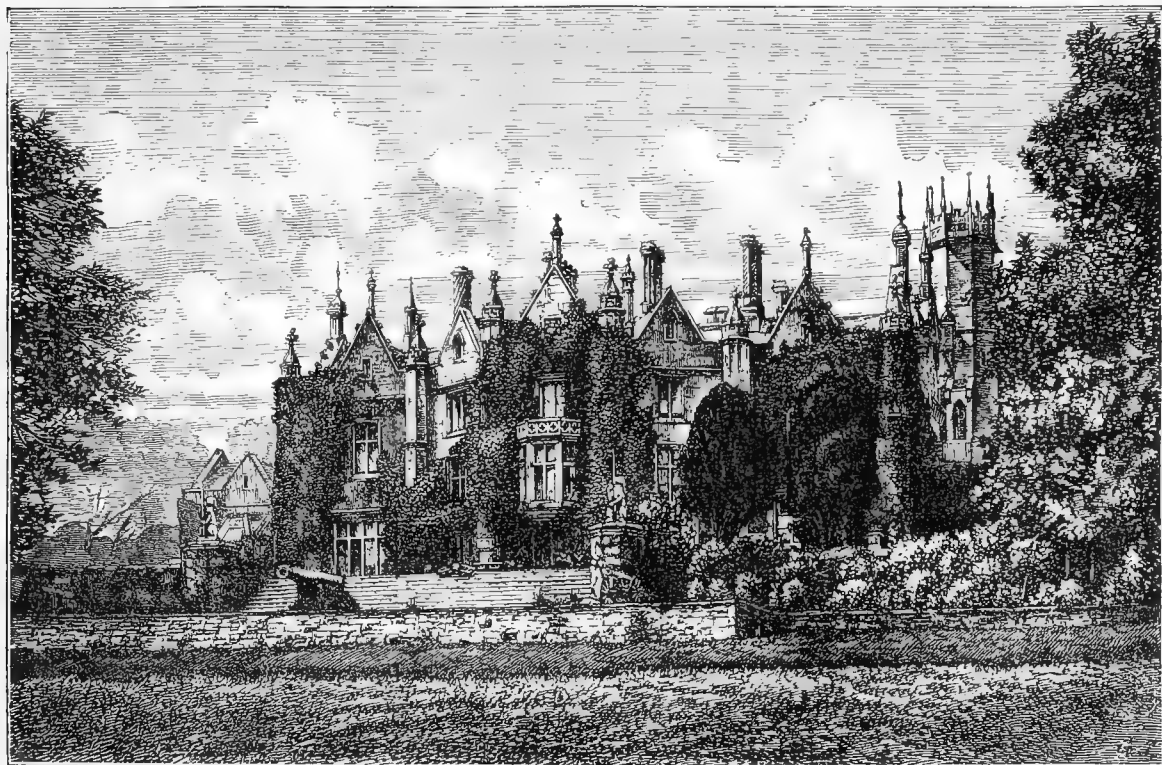


Fig. 8.—SINGLETON ABBEY.

here and there being intersected with all kinds of choice shrubs, *Yuccas*, Palms, *Araucaria excelsa*, *A. Cunninghamii*, and *Cycas revoluta*. The last-named Cycad was not protected in any way during the winter, and it has thrown up many young fronds this spring. The double-flowering Cherry is a great feature when in bloom in spring, some of the trees being 40 feet high and as much in diameter. Further north and completely hid from the last flower beds there is a Rhododendron garden containing many fine plants both in size and variety. *Argenteum*, *Gibsoni*, *Falconeri*, *Dalhousii*, *Countess of Haddington*, and *Edgworthii* are amongst the leading sorts grown. Many of these Himalayan Rhododendrons that are usually grown in greenhouses are 20 feet high and as much through; they are growing luxuriantly and bloom profusely. *Azalea indica* does equally well planted out. At one end of this Rhododendron garden is a large slope arranged as a wild garden with rocks, Ferns, and wild flowers.

Leaving this and winding our way through various walks to the east side of the mansion we came to the pinetum and another large garden of Rhododendrons. Many of the shrubs here are the same as those just named, with the addition of some grand specimens of *Rhododendron Thompsonii*, *R. campanulatum*, and *R. barbatum*. All the best of the hybrids are also planted, and when in bloom in spring produce a rich effect. Ghent *Azaleas* are mingled with the Rhododendrons, and *Azalea*

mollis forms a beautiful edging to some of the beds. Many of the large Rhododendrons and *Araucarias* 25 feet high were transplanted from crowded places into more open positions last winter, and not one of them appears to have sustained the slightest check or injury. Space will only permit a few of the finest specimens of *Coniferae* being named. *Pinus Menziesii*, 60 feet; *P. grandis*, 70 feet; *P. excelsa*, 70 feet; *P. insignis*, 100 feet high, 40 feet through; *P. Morinda*, 55 feet; *P. Pin-sapo*, 40 feet; *P. Sabiniana*, 40 feet; *Cryptomeria japonica*, 30 feet by 20; *Thuja Lobbiana*, 35 feet; *Cedrus Deodara*, 90 feet; *Taxodium fastigiatum*, 80 feet. Many smaller specimens are growing plentifully, and help to constitute the finest and most extensive arboretum in South Wales.

The kitchen garden and glass houses are about 400 yards from the mansion. The houses are in three ranges, two of the ranges being span-roofed and the other lean-to houses. The vineries are six in number, and are altogether about 180 feet in length. They are mostly devoted to a single variety of Grape in each house, such as Black Hamburg, Foster's Seedling, Muscats of sorts, Lady Downe's, &c. Many of the Hamburgs were cut, plenty were ripe, some just commencing colouring, and others recently thinned. All are bearing very fine crops, and the Vines are in a highly creditable condition. In one of the back ranges Peach trees occupy an important part. Most of the early fruit was gathered, and heavy crops

of later were coming well on. At the end of the Peach range there is a large span-roofed greenhouse. Many *Maréchal Niel* Roses are planted out, and their usefulness for supplying cut blooms in spring cannot be over-estimated. The body of the house was filled with a variety of healthy plants of the kinds generally used for decoration in greenhouses at this season of the year. The next range we enter, a span-roofed plant stove, where *Caladiums*, *Dracenas*, *Begonias*, and many fine-foliaged plants are growing freely, and their high colourings are relieved with the soft green tints of many choice Ferns. Round some of the shelves *Maiden-hair Ferns* are planted out, and they do much better in this way than in pots.

The next house is a successional Pine pit containing many fine plants. Cucumbers grow along the back wall and bear wonderful crops, and at the further end from the door is a collection of Orchids, amongst them the *Aérides* and *Vandas* are particularly fine. The next house is a large three-quarter span-roofed Pine stove. Mr. Harris is regarded as the best Pine-grower in Wales. Scores of Queens were in fruit, some of them green, others ripe. Not one of them would weigh less than 4 lbs., and many of them over 5 lbs. In fact the average may safely be taken at the last figure, and those who are practically acquainted with growing Queen Pines will understand that to have scores of fruit averaging 5 lbs. a-piece is no mean achievement. Mr. Harris depends a great deal on atmospheric moisture and water at the axils of the leaves to develop the fruit properly. The soil in which they are growing contains a good admixture of peat and a little horse droppings. Moscow Queens and Smooth Cayennes were much larger than the Queens, and altogether they reflect the highest credit on Mr. Harris, who was the premier prizewinner for a single fruit at the great Preston Show.

The kitchen garden is about four acres and a half in extent, and replete with fine crops of all kinds of vegetables. The brick walls are substantial and well covered with finely trained healthy fruit trees. The Peach trees on the open walls were especially fine, and although the cold winds had injured the leaves the crops of fruit are heavy. The kinds are chiefly Royal George, Noblesse, Bellegarde, Late Admirable, and Salwey. The last named comes in very late, fruit weighing three-quarters of pound having been gathered from it on November 20th. Small fruits are a heavy crop, and Apples, Pears, &c., moderate. Mr. Harris has a comfortable house looking into the kitchen garden, and it is nearly hid with large Fig trees which generally bear heavily.

Many names and dimensions of plants and other features worthy of note have been omitted in these brief notes, but we do not think that any person could visit Singleton without coming away with our impression, that Mrs. Vivian possesses a remarkably fine garden, a gardener highly worthy of encouragement, and a conviction that this is given and fully appreciated.—VISITOR.

A GARDENERS' HOLIDAY.

ON Wednesday, July 3rd, the members of the Darlington Gardeners' Institute had their annual holiday and spent it in an excursion to Riveaulx Abbey and Duncombe Park, the seat of the Earl of Feversham. The weather was all that could be desired—bright and pleasant, without the tropical heat of the preceding week. The route was along the Malton line, running by hedges gay with wild Roses and Elders in full bloom. Coxwold, one of the prettiest villages in the North Riding, was reached. The station was worthy of the village, its garden blazing with Geraniums and other summer flowers, grouped and disposed with consummate taste, and evidently tended with loving care. Laurence Sterne was once curate of this place, where he wrote his "Tristram Shandy" and other books. As the train rushes on a good view is had of the Roman Catholic College of Ampleforth, pleasantly situated at a short distance from the village. Gilling is the next station, where a stay of twenty minutes is agreeably employed in a walk to the village and a look through the pretty country church. There are many objects of interest in it which well repay a visit. The stay was not sufficient to admit of a walk to the Castle, long the residence of the Fairfaxes. The more ancient part of the edifice is said to be of the time of Edward II.

At the pleasant quiet town of Helmsley the rail is left, and the journey is by meadows laden with huge crops of fresh-cut grass, by houses covered with Vines or garlanded by Roses, amongst which the superb *Maréchal Niel* in full bloom was conspicuous. A brief visit to the church, lately restored at

the cost of £15,000 by the Earl, and the road to Riveaulx Abbey is taken. The walk was uphill, but amply compensated by the grand prospect of Duncombe Park, surrounded by its dense woods, and the extensive and varied country, comprising a portion of the Castle Howard estate and reaching to the edge of Hambleton Moors. On by corn land and pasture, by shady woods, and down a steep grassy "bank on which the wild Thyme blows" profusely, and the little hamlet of Riveaulx, built out of the ruins, gives a pleasant halt. Riveaulx Abbey is now reached. The Abbey (or rather its ruins) occupies a romantic position in the vale of Ryedale, not far from the place where three well-wooded valleys meet, built in a deep valley surrounded and sheltered by banks clothed with ancient trees, a fit retreat for that contemplative devotion which shuns the duties and avoids the cares of active life. The ancient monks had, as the remains of their buildings show, an appreciation and love of the beautiful, and nowhere has it been more clearly exhibited than in the choice of the site for this the first Cistercian house erected in England. The nave is entirely destroyed, but the walls of the refectory and portions of the transepts, the most ancient parts of the building, and the magnificent choir, 144 feet in length and 63 in width, still remain. The latter is divided from the nave, which measured 166 feet, by a light and graceful arch 75 feet high, and has three rows of windows richly carved, but the lofty vault, framed

"To gather
And roll back the sound of anthems,"

no longer rests on the spreading arches. Roses and wild flowers grow on the lofty walls and wave in windows once gorgeous with tinted glass and pictured saints. Conspicuous amongst the wild flowers were fine specimens of the beautiful Viper's Bugloss, growing on the window sills and ruined walls at an elevation of 60 and 80 feet. One great attraction of Riveaulx is the terrace, a well-kept piece of grass half a mile long, and bordered on each side by woods, in front of which are planted various flowering shrubs. Openings in the woods offer many fine views of the ruins far below and the fields and moors above. At the head of the terrace is a Grecian temple with scenes from heathen mythology skilfully painted in fresco. Beautiful it may be as a work of art, but Venus and Vulcan, Hercules and Omphale, Pan and Cupid, have little harmony with the monastic ruins beneath and the ascetic celibates who once dwelt in them.

Leaving the terrace, the walk to Duncombe Park leads through a wood and breezy fields by the home farm, sheltered by splendid Ash trees. Here are kept the high-bred costly Shorthorns in which the Earl of Feversham takes great interest, and for one of which, the Duke of Oxford, he gave £2500. In the adjoining fields many fine animals of the same famous breed were grazing. The park, where large herds of deer were feeding, is of great extent and bordered by woods. The pleasure grounds round the hall are charming, laid out with skill and furnished with well-grown shrubs and trees. Near the hall are the north and south avenues, which afford a cool and delicious shade from the summer sun.

The great charm of the place is the home terrace, to which, by the kind permission of Thomas Parington, Esq., the Earl's agent, the party was admitted. This avenue, of the softest and greenest sward, is of considerable height above the valley, and from it grand views of the adjoining country can be had. Below, stretching into the far distance, is the luxuriant valley of Ryedale, its meadows and cornlands, its farms and cottages, basking in the bright sun of July, with glimpses of the glittering river, and in the far distance the edge of the Yorkshire wolds. Passing along a walk overshadowed by ancient Yews, some of them measuring 16 feet in circumference, Helmsley was reached. After this the ruins of the once-powerful castle taken by General Fairfax and dismantled by order of Parliament during the civil wars was visited, and then the excursionists, favoured by lovely weather and with nothing to mar the pleasures of the day, took the train home, much gratified by their visit to one of the loveliest spots in the fair county of the white Rose.—B.

EXTRACTS FROM SIR J. D. HOOKER'S REPORT ON THE ROYAL GARDENS AT KEW DURING 1877.

THE annual number of visitors to the Royal Gardens has during the past five years shown a disposition to fluctuate about an average of 670,000. Rising to nearly 700,000 in 1874, it sank in 1876 to a little below 600,000, while in 1877 it rose again to a number somewhat above the average—

687,972. As in the preceding year, the Bank holiday in August (the sixth) brought the greatest number of visitors in any one day—nearly 58,000, while on two days in January and February it sank to a minimum of twenty-four.

A proposal has been made, emanating in the first instance from the occupants and proprietors of the houses opposite, to remove the wall and substitute in its place an iron railing. This proposal I have felt it my duty to strenuously oppose. The Richmond Road is one of the great highways out of London, the traffic upon it is great, and, especially since the abolition of the toll on Kew Bridge, is increasing. The wall is not merely a most valuable and efficient screen against the driving and destructive easterly winds of spring, but it also checks the dust and litter of a great thoroughfare from being drifted into the Gardens. It has been judiciously remarked that a question of this kind must be decided from the inside. If this is done the public utility of the wall cannot be combated. It is one of the first principles of landscape gardening to conceal boundaries and produce an effect at once of privacy and interminableness. There is no better means of accomplishing this than by a wall backed by well-arranged shrubberies. If the wall be removed the wind will soon exterminate the shrubs, and the eye will rest with little satisfaction on glimpses of iron railing, passing vehicles, and clouds of dust.

Nor have the residents on the opposite side of the road any real ground of complaint. The wall existed before their houses; it effectually prevented any view into the Gardens from the ground floor windows, and the addition to its height in no way intercepts such views as can be obtained from the upper storeys. In a few years the top will be clothed as before with Ivy, while the trees planted in the Richmond Road will in course of time be a more effectual screen than any boundary wall.

My experience of the management and working of the Royal Gardens, extending now over upwards of thirty years, leads me unhesitatingly to the belief that neither the collections nor grounds can be maintained up to their present standard if the public are to be admitted in the morning. During the hours before one o'clock the labourers and gardeners practically accomplish the daily work necessary for the culture of the collections and the keep of the grounds, and in my judgment they could not do so if surrounded by visitors. At one o'clock the Gardens are "dressed" ready for the admission of the public; and though I believe our visitors are proud of Kew and deserve the highest praise for the small amount of mischief which they individually commit (apart from that which is unconsciously and inevitably brought about by the movement of large crowds), still a certain amount of depredation and wanton injury continually goes on, and our gardening staff is therefore more occupied in the afternoon with the business of protecting and supervising the collections under their control, to say nothing of answering inquiries, than of doing anything for their care and cultivation, which is indeed impracticable on full days. There is therefore a marked difference between their duties at the different parts of the day, and this division of their labour I consider it essential to preserve. It is, I am aware, proposed that this difficulty might be met by closing the houses and museums up till one o'clock. My experience, however, leads me to the belief that this, though it might be satisfactory to the local residents, would not be so to visitors from a distance. The only principle which does not lead to disappointment and difficulty is that when the Gardens are open at all they should be so in every department.

With regard to the grounds I must point out that there is this radical difference between them and any other public garden—that they are really to be regarded as an open-air museum, where specimen plants and collections of the greatest possible value are freely displayed. Here again the necessity of constant supervision during the presence of the public is obvious. Nor must it be forgotten that grounds so occupied require, unlike other public gardens simply needing to be maintained up to the same standard from year to year, constant improvement and development. The laying-out and planting of new collections, and the verification, examination, and re-arrangement of old ones, is work which must be done with the co-operation of the scientific staff, which it cannot and ought not to be expected to give during public hours.

A very large class of persons for whose use the Royal Gardens have always been primarily designed, I mean those who visit the collections with some special end in view,

whether botanists, horticulturists, students, manufacturers, &c., would have serious grounds of complaint if there were no time when they could pursue their studies in quietude. Persons with proper credentials interested in particular groups of plants are freely allowed to handle and examine them in private hours, a privilege which must be withdrawn if the public are admitted at all times. To artists, also, leave to draw during public hours is practically useless.

On Bank holidays, which are in every way days of an exceptional character, I have willingly assented to the opening at ten o'clock. On these days arrangements will be made for suspending all the work of the Royal Gardens, and the whole staff will have, even with additional assistance, more than sufficient occupation in watching and controlling the crowds.

I may mention that having had the length of walks in the Royal Gardens which have to be maintained in order carefully measured I find they amount to a total of nearly 15 miles.

	Miles.	Yards.
Botanic Gardens.....	5	1240
Arboretum	6	880
Queen's Cottage grounds	1	600
Herbarium and Palace grounds.....	1	200
	14	1160

The following plants of special botanical interest, amongst others of less importance, have flowered during the past year in the Royal Gardens:—*Aglaonema*, sp. n., West Africa; *Aloe tricolor*, *Baker*, "Bot. Mag." 6324; *Alpinia*, sp. n., ex. "Hort. Bull."; *Ansellia africana*, var.; *Anthurium spathiphyllum*, *N. E. Br.*; *A. trifidum*, *Olin*, "Bot. Mag." 6339; *Billbergia macrantha*, *Baker*, sp. n.; *Calamus fasciculatus*, *Howb.*; *Caralluma fimbriata*, *Wall.*; *Carludovica Plumieri*, *Kth.*; *C. sp. n.*, Costa Rica; *Ceropegia Barkleyi* *Hk. f.*, "Bot. Mag." 6315; *Crocus alatavicus*, *Regel* and *Semenov*; *C. vitellinus*, *Wahl.*; *Duvalia albo-coronata*, *N. E. Br.*; *Dyckia frigida*, "Hort. Lindl.", "Bot. Mag." 6294; *Epidendrum Sophronitis*, *Lindl.*, "Bot. Mag." 6314; *Fritillaria Munbyi*, *Baker*; *F. (Korolkowia)*, *Sewerzowi*, *Regel*; *Gasteria colubrina*, *N. E. Br.*; *Hoodia Bainii*, *Dyer*, "Bot. Mag." 6348; *Huernia reticulata*, *Mass.*; *Hypoxis Arnotti*, *Baker*; *Inula Hookeri*, *C. B. Clark*; *Ione paleacea*, *Lindl.*, "Bot. Mag." 6344; *Iris speculatrix*, *Hance*, "Bot. Mag." 6306; *Lilium cordifolium*, *Thunb.*, "Bot. Mag." 6337; *Microstylis Josephiana*, *Reichb. f.*, "Bot. Mag." 6325; *Muscari (Botryanthus) conicum*, *Baker*; *Szovitsianum*, *Baker*; *Pedicularis Hookeriana*, *Wall.*; *Phaenosperma*, (gen. n.) *globosa*, *Munro*; *Piaranthus pulsus*, *Mass.*; *Pitcairnia*, sp. n.; *Rhipsalis penduliflora*, *N. E. Br.*; *Silene Baldwini*, *Nutt*; *Stapelia comata*, *Jacq.*, var.; *S. (Gonostemon) erectiflora*, *N. E. Br.*; *S. (G.) glandulifera*, *Mass.*; *S. (Orbea) namaquensis*, *N. E. Br.*, var.; *S. grandiflora*, var. *lineata*, *N. E. Br.*; *Tillandsia usneoides*, *L.*, "Bot. Mag." 6309; *Tovaria oleracea*, *Baker*, "Bot. Mag." 6313; *Tulipa undulatifolia*, *Boiss.*, "Bot. Mag." 6308; *Xanthorrhoea minor*, *Br.*, "Bot. Mag." 6297.

CHAPTERS ON INSECTS FOR GARDENERS.

No. 22.

ON seeking a definition of a "moth" from ordinary persons not particularly observant of Nature (but avoiding those who apprehend that a "moth" can only be some such insect as that well known for its attacks upon clothes), we find that we get very various replies. A tolerably common one would be to the effect that a moth is a duller-coloured insect than is a butterfly, with a stout body and a propensity for hiding by day, taking excursions after darkness has set in, on what object intent, however, opinions will greatly differ. Viewed as a general idea of the moth tribe this is not a particularly successful attempt, yet it would apply tolerably well to the family of the *Noctuid*, a large group in Britain, embracing about three hundred species, though we are thrown into the shade by the enormous array that the Continent of Europe presents to view, where *Guerée* has described nearly nineteen hundred species!

In this family are found some caterpillars that are exceedingly troublesome in gardens, attacking culinary plants chiefly, but it does not follow from the figures just given that foreign horticulturists have six times as many of these pests to contend with, because the vast majority of these *Noctuas* feed, when caterpillars, on the roots, stems, or leaves of plants and trees that are not of special importance to mankind. Yet it is the case that in such countries as France and Italy insects pass through their transformations more rapidly than they do in

these islands, and where we should have but one annual brood of a species, abroad there may be two or three broods. Gardeners in the course of their digging during the winter destroy often, without being aware of it, a goodly number of the pupæ of the Noctuidæ, for a great many species live from autumn to spring in that stage at a depth of from 2 to 6 inches in the earth, and therefore are liable to injuries from the spade or fork. Some, however, have the caution to place themselves close to a fence or in the angles formed by roots, or in other positions of partial shelter. Thousands of these pupæ furnish an agreeable article of food to ants and to the predacious larvæ of certain beetles; indeed, in the case of any caterpillar that we may notice in the act of going down for his change to pupa the chances are considerable against his making a re-appearance as moth.

From the Geometrine group, already commented upon, the Noctuidæ are distinguished not only by their stout bodies but by the circumstance that when the moths are reposing the fore wings, which are narrow usually, cover the hind wings by these folding-up under them. The fore wings do not resemble the hind wings, and they have in their centre two spots of an eye-like appearance, varying much in size and tint, one being called the "orbicular discoidal spot," the other the "reniform discoidal spot." All these moths are provided with a stout tongue or maxilla, which coils up spirally, and which at night enables the insects to feast on the nectar of flowers. Attracted by their perfumes many of the Noctuidæ fly from the fields and woods into our gardens. As they hover above the blossoms their eyes frequently shine like tiny stars, the cause of which may be phosphorescence, but we do not precisely know. The caterpillars are mostly smooth-skinned and of dull colours. The Acronyctas, however, or "Dagger Moths" have caterpillars as thickly clothed with hairs as are those very familiar Arctias in the Bombycina family, and which are commonly called "Woolly Bears." A few species, among which is the Gamma Moth or Silver Y (*Plusia Gamma*), have not the full complement of legs in the caterpillar state, in consequence of that fact they move when crawling somewhat in the Luper fashion. To enumerate even a tithe of the common species amongst the Noctuidæ would occupy too much space here, and it will be in accordance with our design in this series to indicate those species merely which to gardeners seem the more important from the rapacious habits of the caterpillars.

Obviously we have few friends amongst them; we cannot say we have none, for the caterpillar of the Dun Bar (*Cosmia trapezina*), though it can eat the leaves of trees, is fond of devouring the troublesome caterpillars of the Winter Moth (*Cheimatobia brumata*), that also of the Satellite (*Scopelosoma satellitia*) has similar tendencies, but it is not quite so ferocious. We have not yet heard it recommended that these cannibals should be encouraged in gardens, where they occasionally appear, though more common in woods or lanes. These excepted, Noctuid caterpillars feed on vegetable substances. Some attack specially roots or the subterranean stems, and do a great deal of mischief ere it is observed. This large group is again subdivided. In some families few or none interfere with horticulture; the numerous species called "Wainscots," for instance, mostly live while in the caterpillar state upon Grasses or Sedges, but the moths may fly some distance from the place where they were bred. On many garden walls scores of the pretty little moth, the Marbled Beauty (*Bryophila perla*), may be seen in July or August, but they have never had to do with leaf or flower; the caterpillars thrive on the small lichens which commonly cover old brick or stonework.

The hairy caterpillar of *Acronycta Psi* (rather absurdly called the Grey Dagger, for several of its brethren are just as grey) feeds on fruit trees as well as on the Limes and Elms in our shrubberies. It is easily recognised by the yellow stripe down the back and the straight lump on the fifth segment. Like the rest of the Acronyctas it spins a cocoon when adult, choosing a crevice in the bark of a tree or a crack in some paling. Another species feeding on the Alder (*A. Alni*), and having a caterpillar with curious appendages on each side like flattened horsehairs, is so rare that specimens have fetched 15s. each. A very determined hunter after sweets either natural or artificial is the Moth of the Dark Arches (*Xylophasia polyodon*), and when swarming about gardens these insects have occasioned needless apprehensions, for they do not deposit eggs in such situations; the caterpillars are indeed subterranean devourers, but they attack plants in fields and waste places. The caterpillar of the Anther (*Chareas graminis*) is noteworthy, because in France and Sweden it has in

some seasons laid waste much of the grass land; it has not however, as yet proved a serious enemy to our farmers. But the caterpillars of the Rustic Shoulder-knot (*Apamea basilinea*) do destroy when they are young more of the grain of Wheat than is agreeable to those who have stored it ready for thrashing, the moths laying their eggs in June on the ears. Of all the Noctuidæ it is likely none is as well known and as sincerely disliked as is the Cabbage Moth (*Mamestra Brassicæ*), which in activity and artifice excels the Cabbage Butterfly by far, and by no device can it be excluded from our gardens. There appears to be but one yearly brood, the moths emerging in succession, so that we find in our plants caterpillars of different ages in the same month. Not satisfied with the revels they have amongst the Brassicaceous plants of the kitchen garden, many of these wander insidiously into the flower garden, hiding by day to regale by night on Geraniums, Dahlias, and a variety of plants. Near akin to this, yet less common, is the Dot (*Mamestra Persicariæ*), the greenish-brown caterpillar with V-shaped markings, feeding openly, is a frequent mark for the birds, and also readily found by the gardener. It occurs in both the kitchen and flower garden, and at times upon Lilacs, Elders, and other shrubs. Oddly enough it is unknown in Ireland, where *M. Brassicæ* is as abundant as in Britain.

A near competitor to the preceding in its powers of doing damage to vegetation is the caterpillar of the Turnip Moth (*Agrotis Segetum*), nor may we presume from the name that it confines itself to that esculent, for the juvenile individuals have a penchant for attacking young Cabbages and Carrots just at the surface of the ground; moreover beds of China Asters have exhibited hundreds of drooping plants, a testimony to the "deeds of darkness" of which the insects have been capable. "It is tedious work," says Mr. Newman, "looking for the mischief-maker at night with a lantern, and awkward to dig between the plants; some gardeners therefore sprinkle lime, or sawdust, or soot, or ashes, or salt, or ammoniacal liquor on the ground, but the result is far from certain, and therefore unsatisfactory." The species was particularly common in 1864, and it was then pointed out by this same entomologist that by our foolish discouragement of several birds, especially the rook and the starling, we had increased the numbers of the detested "Turnip grub." Also common and injurious to similar plants is the caterpillar of the Heart and Dart (*A. exclamatoria*), which doubtless causes not a few gardeners to utter exclamations of disgust. The dingy brown caterpillars of the two species are so much alike that even entomologists are puzzled to distinguish them. A larger species than the preceding, and which in the moth state often enters houses and public buildings, dashing at the lights, is the Yellow Underwing (*Tryphæna pronuba*). It has a caterpillar very variable in colour, of velvety texture, and which conceals itself during the day to feed on Cabbages, Lettuces, and other plants after dark. As the caterpillar life is continued from autumn to spring this species does damage at a time when many of its brethren are in a state of quiescence.

Passing by a host of Darts, Rustics, Clays, Quakers, and allied species, some of which are handsome and rare, we stop at that striking moth the Angle-Shades (*Phlogophora meticulosa*), noticeable on fences in May or September, the rather leech-like green-and-white caterpillar of which feeds on several garden flowers in summer, and in winter contents itself with such wild plants as the Groundsel. It is not so prolific as to be specially injurious. Then there is a Noctua that is particularly attached to the common Brake Fern, though named from the Broom (*Hadena Pisi*). I have seen Ferns nearly stripped in the vicinity of London by the beautifully striped caterpillar of the species. The Early Grey (*Xylocampa lithorhiza*) has a fancy for the Honeysuckle, on which the caterpillars occur from June to August. Amongst other species bearing the mark which is compared either to the letter Y or the Greek gamma, the Silver Y (*Plusia Gamma*) is remarkable for its habit of flying in the daytime; nor does it appear to require rest at night, for specimens will assemble at sugar spread upon trees. The moth is as much at home on an extensive common as within the walled precincts of a garden, and the caterpillar is not critical with regard to food, though preferring plants of low growth.

An oddly named moth, the Gothic (*Nania typica*), has a caterpillar whose habit it is to feed in small companies of from ten to twenty upon the leaves of fruit trees. I have also observed them on the Chrysanthemum. In about a month they descend to feed on Lettuces, Mint, and various herbaceous

plants, hibernating to re-appear in the spring. One of the largest of our Noctuidæ, and one of very dull tint, is called the Old Lady (*Nania maura*). The caterpillar, which is necessarily of good size, is reported to feed on fruit trees, also on the Strawberry, but it is seldom seen. The moth is partial to outhouses, where, large as it is, it sometimes falls a prey to spiders. The last species that we can specify is the Mouse (*Amphipyra Tragopogonis*), so styled from its mode of shuffling along when alarmed, the caterpillars of which occasionally feed on Larkspurs, more generally upon the Whitethorn.—J. R. S. C.

WORK FOR THE WEEK.

FLOWER GARDEN.

FLOWER beds require frequent looking over for the removal of decayed leaves and flowers, and for pinching-in the growths so as to keep the marginal and divisional lines of the various patterns clear and distinct. Seed pods of *Pelargoniums*, *Verbenas*, *Violas*, and all plants employed for bedding should be removed immediately the petals fall, as the production of seed tends to weaken the plant and impedes its continuous flowering. *Verbenas* and *Violas* should not only have the seed vessels removed frequently, but have the branches moderately thinned and pinched back so as to induce young growth, thereby securing continuity of flowering. *Calceolarias*, *Violas*, *Verbenas*, and all plants delighting in moisture should have water abundantly in dry weather, avoiding giving it overhead, as it impairs the beauty of the flowers, especially those of *Calceolarias*, which from their form fill with water and fall off. Carpet-bedding plants of free growth must be kept pinched, so that the lines forming the various designs be kept clear and distinct, as these beds owe much of their effect to their trimness.

Dahlias, *Hollyhocks*, and all plants having a large leaf-surface should be timely staked and have their growths well secured, so as to prevent them from being broken or damaged by winds. Similar remarks apply to subtropical plants, which with *Dahlias*, *Hollyhocks*, &c., should have liberal supplies of liquid manure, especially in dry weather. *Asters*, *Phlox Drummondii*, and other annuals should also receive copious supplies of liquid manure, and if extra large flowers are wanted the flower buds must be freely thinned. *Gladioluses* should have copious waterings in dry weather, and have a mulch over the surface of the soil of short manure, which will not only have an invigorating tendency, but will keep the soil cool and moist, which is of no little consequence in light open soils; in heavy soils the mulching keeps the surface from cracking.

Roses will be greatly benefited by free application of liquid manure and thorough mulching, which will help them to push fresh growth and keep up a good successional bloom. Continue removing the faded flowers, and check any straggling rampant shoots by cutting back, so as to retain order and regularity in the form of the heads, and to equalise the sap, preventing undue vigour in one part and weakness in another. Push on the budding whilst the stocks are in good condition, and continue inserting cuttings under handlights on a north border, or in a gentle hotbed.

Seeds may yet be sown of biennials and perennials, paying attention to pricking off plants produced by a former sowing as they become large enough to handle, for they do not have a chance to become stout and well furnished when allowed to remain thickly together in the seed beds.

In "dressed" grounds a variety of trees and shrubs enter into the arrangement, which without free use of the knife are not in keeping with the trimness that pervades the surroundings. To keep such evergreens as common and Portugal Laurel, &c., in anything like presentable form severe spring pruning is not more important than a judicious removal at this season of irregularities of growth, so as to afford the desired shape of the specimens or outline of the groups of which they form part, but any stiffness, such as that likely to result from clipping with the shears (which greatly disfigures the leaves by severing them), should be avoided.

There can be no doubt that the present is much the most preferable time of year to operate upon choice trees and shrubs needing assistance in the formation of symmetrical heads by the shortening back of straggling branches or removing altogether those that cross each other, for at this season the wounds caused by cutting off the branches heal much more quickly than at any other period of the year. Many fanciers of fine trees, notably coniferous trees, are averse to the knife or saw being employed upon them, alleging that trees left to assume their own natural forms are preferable to those receiving aid from man, to which we cordially subscribe, except always when two leaders start away and contend for chief place it is of importance that one of them be removed, also that irregularities of growth be checked, so as to aid Nature to produce the finest specimens of her works.

FRUIT HOUSES.

Pines.—Plants started early in the year for fruiting will now in the case of early sorts have ripened-off the fruit, and the later kinds will be so advanced in ripeness as to admit of their being

removed to a vinery or other house rather cool and dry, to finish off, which will have the advantage of prolonging the season and admit of the successional plants being afforded more room, it being impossible to have fine fruit unless the plants have plenty of room and light to induce sturdy habit. Let there be no delay in getting in the suckers from the early-fruited plants, potting them in fibrous loam rammed firmly into the pots and around the base of the suckers, watering at once, having in readiness a bed of fermenting materials at a temperature of about 90° at the base of the pots to plunge them in. They root best in a close moist pit. In plunging bring the material over the surface of the pots so as to prevent the soil becoming dry near the top; the soil will then have sufficient moisture until the suckers have rooted, they doing so more quickly if shaded from bright sun and ventilated a little at 85°. Care must be had in not subjecting the suckers to too strong bottom heat. Beds that had a supply of fresh material in spring will not require any now. They may, however, with advantage be turned over to a depth of 20 to 24 inches, but those that had not a renewal of the material in spring should have an addition of about a foot of new tan mixed with the old to a depth of 18 inches, avoiding if possible the making of new beds, but if it be necessary 24 inches in depth of new tan will afford all the heat necessary for the suckers.

Figs.—Those ripening-off the fruit must have a circulation constantly of dry warm air to produce it in the highest perfection, which can be secured at this time of year without resorting to artificial heat except in dull cold weather. The second crop will be advanced in size; and if the fruit be too thick it must be thinned if not already done, remembering that this crop must not tax the energies of the trees too severely if the trees are expected to afford early fruit next season. Attend to stopping and tying-in the shoots, watering the borders copiously, especially those of limited area, and syringing forcibly twice a day to keep red spider under. Do not neglect to syringe trees in pots intended for early forcing at least once a day, in hot weather twice, affording liquid manure at the roots, and pinching to induce fruitfulness in young plants. Stopping must be regulated by the vigour of the plants and kind. Vigorous growers will need to be more closely pinched than those of moderate growth. Such kinds as Early Violet, Black Ischia, Bordeaux, Negro Largo, White Ischia, Ciel de Perdrix, and White Marseilles are of good habit and do not require such close stopping as Angelique, Brown Turkey, and others of more vigorous growth. It is important that the trees have plenty of light, are not crowded, and are well ventilated to solidify the growth as it is made.

Melons.—Plant without further delay in the Melon house for producing fruit in October, and sow seed at once to raise plants to ripen a crop of fruit in November. In Melon houses artificial heat may now be dispensed with, except when dull cold weather prevails when the fruit is setting or ripening. Syringe growing plants freely in the afternoon at about 4 P.M. or earlier, allowing the temperature to rise, but not above 85° to 90° after closing. Afford a plentiful supply of water at the roots, when shading of the foliage will seldom be needed. The latest plants in pits and frames will now be setting or far advanced to setting their fruit, it being important that the fruit be set at the close of this or early part of next month to allow time for its swelling and ripening. Give a good watering before the flowers open, line the sides of the beds with some hot dung or short grass, and leave about three-quarters of an inch of air on constantly at the back of the lights until the fruit is set and commences swelling, then keep the growths well stopped and maintain a warm moist temperature by early closing with sun heat, and sprinkling the foliage, and watering in bright weather twice a week.

Cucumbers.—Pot off the plants for autumn fruiting, pinching out the growing point beyond the second rough leaf, and complete the preparation of the dung for affording bottom heat, presuming fermenting material to be employed, and have the soil in readiness for planting in due time. The house must have a thorough cleansing after the old plants and soil have been removed. Although fire heat is at this time of year in bright weather unnecessary, yet in a prolonged period of damp dull weather the nights are cold, and the low temperature induces yellow fruits, canker at the collar of the plants, and mildew on the foliage. In such weather employ gentle fire heat by night, and day also if cold. Against mildew flowers of sulphur dusted freely about the foliage is an infallible remedy, and against canker there is nothing better than rubbing the infested parts until dry with freshly slaked lime. Upon a return to bright weather after a dull period shade from bright sun to prevent flagging, which if allowed wastes the energies of the plants, resulting in ill-shapen stunted fruits, and offers a strong inducement to red spider.

PLANT HOUSES.

Orchids.—Many of the *Masdevallias* and *Odontoglossums* will now require a shift, especially those that are growing strongly and have filled the pots with roots. Keep the temperature in the *Odontoglossum* house cool by sprinkling plenty of water about the floors, and ventilate freely. The bottom ventilators should be left open all night, using the syringe freely. This is a good time to pot *Cattleya Mossiæ* and *Lælia purpurata*, as these will have

started into growth. Cattleyas when growing freely require plenty of moisture, which will enable them to make good plump pseudobulbs. Ventilate the houses at about seven in the morning, closing at about four in the afternoon. As many plants will have completed their growth they should be removed to a cooler house with an average temperature of about 60° without sun heat, it being less charged with moisture and heat than that in which the growths were made. When continued in their growing quarters a majority of the plants start into second growth, which, as a rule, does not become properly matured. Afford weak liquid manure to Calanthes and keep the leaves freed of red spider, thrips, and scale by sponging with soapy water and afterwards with clear soft water. *Thunia Bensoniæ* and *Thunia albus* come in about this time when flowering plants are waning, and are therefore the more valuable, and being of easy culture should be grown in every collection. They require similar treatment during growth as *Calanthe vestita*. *Sobralias* are subject to red spider, and should be frequently sponged and syringed. Syringe all blocks and plants overhead, especially after a hot day, giving plenty of air to all pseudobulbous plants to enable the growths to become ripe and solid. *Anæctochilus* when growing and in good health should have plenty of water; those under bellglasses should have a crock placed so as to tilt the glass to admit air, which if not attended to the plants are liable to damp off. It is a good plan to remove the glasses every morning early for two or three hours.

Stove.—Plants of *Eucharis amazonica* that flowered early will now have made a good growth, and should have water withheld until the leaves commence flagging, then give a little to restore the foliage, keeping the plants in a light cool airy house for about five or six weeks, when if returned to heat and moisture they will soon throw up the flowers. *Anthurium Schertzerianum* after it has ceased flowering should, if required, be shifted into larger pots. Being a surface-rooting plant it does not require a great depth of compost to grow in, but must have very liberal drainage, as the waterings require to be abundant. Good fibrous peat in lumps as large as eggs, some sphagnum and charcoal or crocks moderately small and a free admixture of sand, removing all the earthy portion from the peat by shaking in a sieve, form a suitable compost. Attend to climbers with water and liquid manure, especially those planted out, as when the borders are dry red spider thrives famously upon the foliage notwithstanding that it be syringed. Fires may for the most part be dispensed with, but in a dull cold period they should be called into requisition; for notwithstanding that the plants may not immediately show any of the effects of cold, they will do so all the more markedly when subjected to warmth again, whether it be natural or artificial.

TRADE CATALOGUES RECEIVED.

Jules de Cock, Faubourg St. Lievin, Ghent, Belgium.—*Catalogue of Specialities of Hardy and Tender Ornamental Plants and Trees.*

George Brunning, St. Kilda Nurseries, Brighton Road, near Melbourne.—*General Catalogue of Plants, Flowers, and Trees.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense. Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

CARNATIONS BURSTING (*Amateur*).—They are too well fed. A poorer soil and less water would enable all the parts to develop equally.

ROSES (*A Lover of Rose Shows*).—There would be no difference in the hardness of the plants.

BEAUTY OF TROWBRIDGE FUCHSIA.—We are informed that it was raised by Mr. J. Smith of Trowbridge.

GREENHOUSE ASPER (*T. K.*).—Facing the south with one end open to the east will not be objectionable for your greenhouse.

BEGONIAS (*T. B.*).—The varieties are a legion and not nameable.

SOWING SEED OF ECHEVERIA SECUNDA GLAUCA (*M. B. S. D.*).—Sow the seed immediately upon fine well-watered soil in large pans, which cover with some opaque substance to exclude light, and place in a pit or greenhouse. Inspect the pans occasionally, and as the seed vegetates admit light, and prick-out the seedlings thinly in other pans as soon as they are large enough. You do quite right to shade your *Geraniums* sent by post. The loss of the foliage is attributable to the exhaustive effects of such a method of transit.

VINES FOR A SMALL VINERY (*W. C. B.*).—According to the common method of procedure three Vines would be planted in a house 12 feet long; but as your house is only 8 feet wide we advise you to rest content with your one Vine of Black Hamburgh, planting it in the centre of the front of the house, and training three rods or canes from it up under the roof, and

thus secure a much more vigorous root-action than you could do if more Vines were planted. If your light, rich, friable loam is well drained, you may plant your Vine in it next November without any other preparation than a dressing of manure to be forked-in just as for a crop of Cabbages. Afterwards when the Vine is established and its roots have traversed the border from back to front, as they are quite certain to do in a year or two, apply surface dressings of manure, but avoid forking the border or the roots will sustain serious injury.

TRANSPLANTING RASPBERRY CANES (*Idem*).—Do not attempt to transplant your old Raspberry stools, but select stout young offsets in the autumn, cutting them back to 2 feet and planting them about 2 feet apart in well-manured soil. Retain the old bed till the young plants throw up strong canes, which they will do the first season in very rich soil. Plentiful waterings of sewage or liquid manure tend materially to promote that early strong growth which is so desirable.

YOUNG GRAPES WITHERING (*J. Williams*).—Remove 3 or 4 inches of the surface soil, then apply mulch, keep it on during the growing season, and water so as to keep the soil moderately moist. Your object must be to encourage by every possible means the emission of surface roots, and when you achieve this your Vines will improve. Perhaps your Vine border requires draining.

KITCHEN GARDEN FOR A SMALL FAMILY (*S. S.*).—Under good culture a dozen square perches of ground would afford you the quantity of Potatoes you require. Figures may be made to prove anything. Here are some for you. A bushel of Potatoes weighs 56 lbs., and land that is moderately rich will yield 2 bushels of large Potatoes from a square perch. A quarter of an acre of ground would probably supply you with other vegetables. So much depends, however, upon the nature and condition of the soil, upon the treatment it receives, and upon your requirements that it is impossible to be more explicit, for if you require a large supply of vegetables and a succession of such as are usually grown in large gardens double the area of land would not be too much.

DISEASED CUCUMBERS (*New Subscriber*).—Some notes on Cucumber culture are in course of preparation, and will shortly be published.

VINE LEAVES DECAYING PREMATURELY (*C. D.*).—No doubt the premature decay of your Vine leaves is owing to imperfect drainage. Why your border is so much below the level of the garden surface you do not state. If this cannot be altered and the border raised, then sink a shaft or make a tank close outside the lower end of the border, into which drain all superfluous water. The small size of the leaves you sent us betokens want of vigour, apply therefore a heavy top-dressing of rich manure from the stable or farm-yard immediately; see also that no more time is lost about the drainage, and then you may reasonably look forward to a better state of things next year.

ROSE FOR AN EAST ASPECT (*H. F. C.*).—As you require a Hybrid Perpetual for your fence we suggest climbing Countess of Oxford, but *Gloire de Dijon* is much preferable; no Rose is more hardy, and few are equal to it in robust vigour of growth and the still more important merit of continuity of flowering from early summer till late in autumn.

JAPANESE ROSE (*Somerset*).—Yours is the true Japanese Rose, *Rosa rugosa Regeliana*.

MAIDEN BLOOMS FROM SEEDLING BRIAR (*A Lover of Rose Shows*).—We think that they are not equal to those of the standard or Manetti. They come later and are very large, but not of so good form as the others. We see no advantage in having standards 5 or 6 feet high, though often some of the best sorts of Teas are budded on them. They require longer stakes and are less secure in gales of wind. They certainly are very fine when budded with varieties which, like *Maréchal Niel*, are inclined to weep. Perhaps the buds usually grow more freely on the high standard.

COLEUS LEAVES EATEN (*J. C.*).—A very small caterpillar often attacks *Coleuses*. It is very difficult to find, being nearly of the colour of the leaves. Shake your plants sharply over a sheet of paper, or examine them closely by candlelight, and you may find the marauder. There are so many varieties of *Coleus* so much alike that we cannot with certainty name from leaves only. As to form of plants for exhibition that is entirely a matter of taste. Adopt the form which you can best carry out.

NAMES OF PLANTS (*J. H.*).—*Lilium umbellatum*.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

MEETING OF THE ROYAL COUNTIES (HANTS & BERKS) AGRICULTURAL SOCIETY AT SOUTHAMPTON.

(Continued from page 38.)

HORSES FOR AGRICULTURAL PURPOSES.—Class 17.—This is an important class for the conductors of home farms, and whether the horses are reared for sale or for work on the farm, it is of great consequence that the best style of animal should be selected. The first prize for the best cart stallion foaled before the year 1876 is awarded to a powerful Clydesdale belonging to Messrs. Stanford Ashurst, Steyning, Sussex; Mr. Stratton of Chilcombe, near Winchester, being a good second with a beautiful well-bred dark grey. In this class there were twelve entries. Class 18, for younger stallions, the first prize is taken by Mr. G. Newland of Micheldever, Hants. Class 19, for the best gelding or filly the Messrs. Stanford are again first with a capital Clydesdale filly, descended from his celebrated horse "Duke." Classes 20 and 21, for the best entire cart colt and filly respectively, were well contested by well-known breeders with superior animals. Class 22, for the best mare and foal, eight entries.—This was a splendid

exhibition, every animal shown being worthy of high commendation, Messrs. Stanford, however, taking first honours with a most powerful Clydesdale mare and foal. Class 23, for the best mare for breeding purposes, twelve entries.—Messrs. Stanford were again successful against a strong competition, Her Majesty the Queen being a competitor in this as well as several other of the classes. Taking the show of agricultural horses altogether it was worthy of study, and we particularly noticed that no animal had any chance of receiving an award from the Judges unless it was not only large and powerful, but the Clydesdale was always preferred as stock for the cultivation of the land, they being not only heavy but extremely active as well.

Cattle (Shorthorns).—This noble breed of cattle, alike advantageous, being profitable as well as ornamental for the park or home pastures, was not very well contested as to numbers at this Show. Class 29, for the best Shorthorned bull.—First prize was awarded to Mr. J. Proud, East-end Farm, Lymington, Hants, and in this he gains a great victory with a white bull of rare shape and quality over the other competitors, but especially as opposed to Mr. Joseph Stratton of Alton Priors, Wiltshire, who takes second honours with a magnificent animal of extraordinary weight and of full pedigree. The other bulls in this class were all commendable animals, reflecting great credit for the judgment displayed by their owners. Class 31 and 32, for bull under two years old and bull calf, were contested by five and seven entries respectively, the chief honours going to Mr. J. Stratton, Rev. R. Kennard of Marnhull, Blandford, Dorset, and Col. Loyd Lindsay, M.P., Lockinge Park, Wantage, Berks. Although there is nothing particular to notice in these animals, yet they were meritorious stock and full of promise for the future, especially the Rev. Mr. Kinnard's calf from his celebrated cow "Queen Mary." Class 33, for the best cow in calf or in milk, seven entries.—This class is remarkable for the value and beauty of all the cows shown. The first prize is awarded to Col. Loyd Lindsay for a well-bred cow which we cannot find fault with, except that we do not consider her a great milker; she is, however, well bred, of full pedigree, a good handler, very fat, and covered with soft mossy hair. The second prize is awarded to the choicest dairy cow in the yard without a name or pedigree, but belonging to Mr. H. C. Dorrington of Boyat Farm, Otterbourne, Hants. This cow has a calf by her side a month old, yet she shows excellent condition, is an extraordinary milker, and we think ought to have received the first prize because she is everything that can be wished for as a dairy cow, possessing all the points required of the Shorthorned breed; whereas the first-prize cow in our opinion is only calculated to rear stock for show purposes, or for calves to be steered and sold as "baby beef." Mr. Dorrington's must be therefore considered a great victory in such a noble class of cows; and although he is only placed second, yet in all our experience we have never seen a greater triumph of intelligence connected with dairy management. Class 34, heifers under three years old, three entries only, yet the first prize, taken by Mr. R. Browning of Old Alresford, Hants, is an animal which would stand well in a numerous class; she is, however, too fat for breeding purposes, and we would have the owner bear in mind that the greatest of drawbacks in Shorthorned breeding are barrenness and abortion, produced, as we believe, from over-feeding, which often mars or destroys the productive powers, and it is much to be regretted that the fashion of the day for high feeding (particularly that of allowing young stock to take milk from nurse cows up to twelve or fifteen months old) prevents many of our best breeders from exhibiting some of their most valuable females. Class 35 and 36 have eight and seven entries respectively, and although the stock here is really good it does not require from us, in the interest of the home farmer, any special notice, there being no improvement upon former shows. In concluding our remarks upon Shorthorned cattle we wish to say that as there has been no real improvement in the breed of Shorthorned cattle, whether for the production of beef or milk, since the time when "Master Butterfly," belonging to the late Col. Towneley of Lancaster was exhibited at the Royal Society's meeting at Canterbury in 1856, that being the best bull we have ever seen for getting stock adapted to all purposes. It is now, therefore, desirable to purchase only animals of full pedigree, which are celebrated especially for the milking capacity, and every other requirement will follow as a matter of course. As space will not at present allow us to remark upon the Longhorns, Devons, Herefords, and Sussex classes, although some points of interest must be omitted, we will pass on to the Channel Island cattle, hoping in our usual weekly article to refer to all the others in due course.

Channel Island Cattle.—This is certainly one of the best exhibitions in quality and numbers we have ever witnessed within our recollection at the meetings of the Royal Society or any other; and as this stock is more fashionable than ever as furnishing both profitable and handsome ornamental stock for the parks and pastures of the mansions and villa residences of the suburban and other districts, we must give a prominent notice of them upon this occasion. The "little beauties," as they are called in this neighbourhood, are great favourites, and certainly attracted more attention (especially from the ladies) than any other stock exhibited.

Class 56.—The first prize is taken by a capital specimen of the Jersey breed, belonging to Mr. J. Cardus of Town Hill, West End, Southampton. He is just under three years old, and is as near perfection as any bull we have ever seen, being also of the fashionable silver-grey colour. The second prize was given to Mr. T. Hepburn of Clapham Common for a fine large animal of a light silver-grey colour; he was, however, double the age of the first-prize bull. Three commendations were awarded in this class, one of which was to the celebrated Mr. G. Simpson, of Wray Park, Reigate, and it is the greater credit to the winners of these prizes that Mr. Simpson should be left in the commended rank.

Class 57, Bulls under two years old, twelve entries.—First prize to Mr. G. A. Fuller. This is a prime animal of good outline and character, and is nearly equal to the first-prize in the former class. Second prize goes to Mr. Simpson for a light silver-grey, showing the good breeding peculiar to this stock, and well deserves the second prize.

Class 58, For the best bull calf.—Mr. Simpson first prize, and Mr. J. F. Burrell, of Frimley, Surrey, second prize. The eight entries in this class all promise well for the future of this breed.

Class 59, Thirty entries, for the best Jersey or Alderney cow in calf or in milk.—Mr. Simpson in this class takes the first prize, two extra, and a third prize, the first prize being awarded to "Luna," an animal of a light fawn colour, the winner of the first prize also at the Bath and West of England Society's Meeting at Oxford. She is certainly the choicest cow of the breed we have ever seen; she shows great absence of flesh, which is one of the proofs of her extraordinary milking capacity. Nos. 315 and 316, shown by the same breeder, are exquisitely beautiful cows of a light fawn colour. Mr. H. A. Rigg takes the second prize with a nice handsome cow, and evidently a profuse milker. In this class Mr. Cardus obtains a high commendation. He is also commended for a good cow of silver-grey colour. Mr. C. B. Dixon, who is a very careful breeder of Jersey stock, obtains two commendations in this class with very good and well-bred cows. Mr. C. Purrott of West End, Southampton, has a really good dairy cow of this breed commended. This class as a whole, taking the number shown and their extremely nice quality and condition, has never been equalled in any show we have ever seen; this, however, was to have been expected in a neighbourhood where so many are kept, and Southampton being the chief importing town for this stock direct from the Channel Islands.

Class 60, For the best Alderney or Jersey heifer under three years old, twenty entries.—This is an extremely handsome array of promising heifers, but the choicest received the prizes, Mr. Rigg being first, Mr. Simpson second, and Mr. Fuller third, with a high commendation to Mrs. Malcom, Beechwood, Lyndhurst, Hants—in fact this class was so beautiful that we should have commended the whole had we been judge at the Show.

Class 61, For the best heifer under two years old, eighteen entries.—Here again we have very pretty row of stock, showing exceedingly well for future excellence in the dairy. The first prize to Mr. Simpson, second Mr. Rigg, Mr. C. Dixon taking an extra prize and high commendation, and the same to Mr. J. Cardus.

Class 62, For heifer calves.—This is an interesting class, and promises in the future to maintain the celebrity of the Channel Island stock, not only for beauty but for profit in the dairy. Mr. G. Simpson is again to the front, and has the honour of placing Her Majesty in the secondary position, the second prize only having been awarded to the stock from Osborne.

In the Class 63, for the best Guernsey bull, only two entries, the first prize going to Major Mackay, Lyndhurst; the second to Mr. G. H. Errington, Merry Oak, Southampton. Both these were good animals, but they do not find much favour in this district, the breed being more generally used (on account of the extremely yellow and rich milk) for colouring the butter or cheese where poor milk prevails.

Classes 64, 65, 66, and 67, for Guernsey cows and heifers, no entry. **Pigs.**—In Classes 72, 73, 74, and 75, for Berkshire pigs, Mr. H. Humphrey, Kingstone Farm, Shrivernham, takes first prize for the best boar; but Mr. Charlwood, Padworth, Berks, who takes second honours, is not far behind, both animals, however, being excellent specimens of this valuable breed. For sows Mr. N. Benjafield, Motcombe, Shaftesbury, Dorset, takes the first prize with a capital animal, Mr. Humphrey being second with a choice animal of this now profitable stock. The whole of these classes are worthy of the highest commendation. In Classes 76 and 77, for any large breed not being Berkshire, there were no entries; this is much to be regretted, for had the large white Yorkshire stock been exhibited it would have been seen that they are extremely valuable when killed for quarter pork, and also valuable for crossing with the Berkshires for general purposes, and especially for early maturity. Classes 78, 79, 80, and 81 represent small black pigs not being Berkshires.—Although these classes are highly meritorious, yet in these classes the Sussex and Essex breed prevailed, and these stocks are much esteemed in the southern and eastern counties. Classes 82, 83, 84, and 85, for small white pigs not being Berkshires.—The boars in these classes were very good, but we must demur to their being shown in very fat and perfectly helpless condition. The sows exhibited were capital stock, and we

were especially pleased with the sow and eleven pigs shown by Col. Portal, Ashe Park, Micheldever, Hants. In Class 85 Her Majesty again takes the prize with a pair of young sows, sent from the Prince Consort's Farm at Windsor, which were deservedly admired. The Sussex breed of pigs represented in classes 86 and 87 was a very poor competition, although this breed is kept more than any other in the South Hants district. The prizes were, however, taken by Mr. Kent of Bognor, Sussex.

We have entered at some length into the sheep, horses, cattle, and pig classes, each of them being very important to persons engaged in the management of home farms, and we trust that our observations and remarks will prove not only useful to young men commencing business, but that the names of the prizewinners will direct them where to obtain the best of all the kinds of stock they may require.

WORK ON THE HOME FARM.

Horse Labour now consists of preparing the land for turnips as fast as the green crops are cleared; but these will soon be finished, and we prefer drilling the turnips at once ploughing as fast as the land is ploughed in order to retain the moisture in the land, and when the turnips are drilled the same day as the land is ploughed the seed is sure to start into vegetation immediately. Sometimes, particularly in sandy or sandy loam soils, little bunches of couch grass will be found, which should be dug out with the prong as fast as the green crop is removed, but sometimes the labour is not available through haymaking and other urgent work; we do not, however, hesitate ploughing-in a few bunches of grass, because we always look over the turnip land before folding off the roots with sheep. In fact this is best and cheapest way to keep the land quite clean, and time can always be found for this work in the winter months; and the advantage is great, because an outlay of a few shillings per acre will save a pound in extra ploughing, besides the fact of the land being always ready when the season comes, without the delay caused by extra ploughing, &c. Horse-hoeing will still be required for the latest mangold crops and also for the Swedes, and in many cases where hand labour is scarce the implement invented for cutting out the plants into bunches in the lines may be used, but it can only be done where the plants are thick and regular in the rows. This, however, saves the plants from getting stunted, as the hand-singling and hand-hoeing may be done more leisurely afterwards; but we like the work of horse-hoeing across the lines quite as well as the implement for hoeing, as it moves the land better. The hand-hoeing and singling require great care in order that the plants may be left singly, and we have often remarked to our shepherd when he has been hoeing Swedes and other roots that we did not require any twins until lambing time. When vacancies occur in the root crops, and particularly in mangolds, we like to plant the large Drumhead Savoy cabbage plants, and always set them with the spade; they are then sure to grow if the weather is ever so dry and the land hard. The odd horse will still find plenty of work in various ways, such as carting and clearing away hedge clippings, carting clover for horses, cattle, and pigs. We like the system of feeding cattle in the stalls with clover in summer time, because in using the clover thus it may be cut three times instead of twice only for hay; there is no risk of spoiling like hay, and the result after feeding, as compared with that of hay as regards manure, is immensely in favour of foddering young growing cattle in this way, and we have never had nicer fat cattle at Christmas upon arable farms than where they have been fed in this way during the hot weather in summer, with a small allowance of cake, say 2 lbs. or 3 lbs. each per day.

The herdsman should now look to his heifers coming two years old, and turn out with them a young bull about fifteen months old; the calves will then come about the right time, that is in April and May, and this is the best time for heifers to bring their first calf, whether the breed is Shorthorns or otherwise.

Preparations should now be made for the harvest, and arrangements made with the men required, fixing the rate of wages, &c., otherwise when the time comes and casual labourers are the only ones to be obtained it will be found very uncertain as to how the work and the men's wages can be adjusted; also it is well to look to all the implements, carts, &c., required in the busy time of harvest, so that all may be in good condition for use at short notice. The cutting of winter oats, rye, and early peas will be begun in a few days, and it must be anticipated by getting all the work—such as hoeing of root crops, &c.—finished, in order that there may be no delay, as it will be indeed a busy time, because the second crops of clover will be ready at about the same time. The shepherds now will be drafting stock wether lambs for sale, some perhaps being required on the home farm, and care must be taken of the ewe lambs to have them dipped to kill ticks and prevent the attack of the blowfly; the ewes also will soon require to be treated in the same way where the wool grows up sufficiently.

We have received the schedule of a Poultry and Pigeon Show to be held at Winchester on August 14th and 15th, in connection with the Dog and Flower Shows. The poultry classes, twenty in number, are for chickens of the year, with three prizes in each of

respectively 30s., 15s., and 5s. Cockerels and pullets are shown separately. Pigeons have twelve classes, with three prizes in each, 15s., 10s., and 5s. Mr. W. B. Tegetmeier is to be the Judge. The rules against fraudulent practices seem to be stringent, and to be modelled on those of the Poultry Club. The name of Mr. T. C. Burnell is on the Committee, which is a guarantee that the regulations will be honestly and well carried out.

POLISH FOWLS.

THE increase of poultry shows has not done unmixed good to fancy poultry. The breeding of the most useful varieties, or those which from time to time are believed to be such, has been greatly stimulated by them, and the classes of these fashionable breeds are often immense; but the difficulty of making those for the rarer kinds pay, and the caprice with which old favourites are discarded for new ones, has brought down many ornamental—aye, and useful—kinds to the "any variety" class, where honours must necessarily much depend on the taste of individual judges. Many breeders unfortunately think too much of the results of these wheels of fortune, and so discard really valuable birds because they do not win. Such has to a great extent been the case with some beautiful varieties of Polish, now nearly extinct. We had not long ago at the Paris Exhibition the opportunity of seeing some of them, and, as we promised in our report of that Show, now proceed to give some further notes upon them. The varieties which there appeared over and above those which are well known were six.

1. Chamois.—There are no doubt some of these still in England. Within three or four years we have seen them at the Birmingham Show, but always of a dull mealy colour; not the bright yellow birds with white laces, such as they have in France. It was not that there were one or two good pens of these in Paris, but enough to make a class. The first-prize trio of hens and the first-prize cock were such as we had never before seen; the second-prize cock (which by the way has come to this side of the Channel) was even richer in colour, but a little spoilt by his close-fitting crest. The French judges seem really to have some definite idea as to the points which they desire in this breed, the chief of them being brightness and richness of colour, specially in the tuft hackles and tail of the cock.

2. Then came pure White.—We must say there were not enough of these. The characteristics of those there were did not strike us as being sufficiently defined to lead us to believe that the breed still exists in any great purity. We have vague recollections of some of this breed, which we then thought fine specimens, in a north country village some twenty years ago. It is true that in childhood we are apt to exaggerate the size of everything, still our belief is that there were large robust birds, pure white and bearded, in size more like Houdans than Polish, yet with real Polish heads. We have since seen a farmyard in Lombardy full of birds approaching this type yet showing signs of some cross from the smallness of their tufts and absence of beards; however, we had never before seen anything like good specimens in the show pen. There was in Paris one cock, deep in the moult and deeply tinged with yellow, yet evidently from his general expression a pure Polish fowl, which struck us much. Shown by the same exhibitor were four hens, matching in general form, but not so in legs. There were two or three more entries, but the birds were smaller and bore evident marks of relationship to Sultans.

3. Cuckoo.—These, we believe, are not so rare as the White, but less pure. Cuckoo is an easy colour to produce, and our British strains of Cuckoo Dorkings or Scotch-Greys have been spoilt by crosses. Some years ago a good pair of Cuckoo Polish were shown in England by the Rev. A. G. Brooke, but we have not seen any since in this country. There are a few at the Paris Jardin d'Acclimatation, and there were some at the Exhibition shown by an Italian Baron; these latter were good in colour, but small and poor in crest; they had combs, too, which looked as if they might be related to Houdans.

4. Ermine (French, *Hermine*) are certainly pretty. They are white birds with black spots on tail, hackle, and their well-developed crests. They are evidently a cross-breed between Silver-spangles, to which they are indebted for their fine crests, and White; indeed, the great Parisian dealer told us that he had so produced his exhibits.

5. Blue.—We have sometimes heard of Blue with white crests, but we never saw them. These were, however, entirely blue. They were shown by two Italian exhibitors, the hens being entered as Cremonese. Their appearance was spoilt by heavy fleshy-looking combs.

6. Frizzled.—We had never before seen Frizzled Polish, and thought both the Chamois and the White specimens good, for their size was large, their crests fine, and their colour pure. The French Judges were not taken with them, and considered them mongrels. We could not agree to this in the general acceptance of the term, for their uniformity of crests and thoroughly Polish look showed that the variety must have been long bred to a fixed standard.

We inquired about the long lost and now almost fabulous White

with black crests. We would fain add them to our list of the rarer Polish. We could get no tidings of the existence of any in France, or even of anyone who had ever seen them.

We heard much from French fanciers of an amateur in one of the central departments who devotes his attention greatly to Polish, and has fine specimens of every known variety. We have been promised an introduction to him, and hope on some future day to visit his yards and report upon them. Meanwhile we shall be very glad if these notes upon breeds which, though almost lost to us, yet do exist not far off, should induce any fancier to give them a trial.—C.

FATALITY IN YOUNG RABBITS.

EVERY doe Rabbit will breed half a dozen times, and have as many young at each litter; therefore a stock of three does and a buck may be multiplied in one year to over a thousand, because each young one will be able to breed when six or eight months old. Fortunes could be quickly reaped at Rabbit keeping if the increase continued at such a ratio, but unfortunately it does not, for many of the young are lost. These causes are not far to look for. The first plan seems to be to ascertain what kind of food the Rabbits like best, and then to force this upon them almost to their death, and certainly to the great detriment of their health. Young cabbage is often a great favourite with little Rabbits, but nothing is so bad for a constant supply of food. It is often given entirely, and many diseases result from it. When the young Rabbits are born they are apparently quite free from hair, but on looking carefully on the back a little silk hair can be discovered, which increases every day till the Rabbits are about a fortnight old, when a little wool grows. This increases for a week or two, and when they are about five weeks old they pass through a moult. This is a very dangerous time, and seems, like distemper in dogs, quite unavoidable and always to be expected. The best thing to do is to leave the young with the doe till the attack is over, and then to remove them into warm hutches. With the utmost care some will die, but the numbers may be greatly reduced by proper precautions. Extra attentions in warmth and food will not be thrown away and will be likely to save a few lives. As they attain a little over a month old a kind of looseness is very prevalent. The damp excrement sticks to the hocks and dries on, forming a hard scale, and frequently causes diseases of the hocks and feet. It has other bad effects: it gets on the skin and causes the hair to mat; then it can only be pulled off by causing pain to the Rabbit. The worst effect of the disease is that it is very weakening, and is as often caused by excessive heat as by improper food. Too much green or moist food will also cause the disease at any time. The only cure is to suddenly change the diet and give plenty of dry farinaceous food. The hutch should be cleaned out frequently, and a change to another hutch will be well.

Exercise is very good for the young Rabbits, and they should have it every day, the more the better if they enjoy it. The yard should be dry and inaccessible to cats. A grass plat well bounded affords a nice running ground for the young ones on a fine day, and they will nibble the short grass. If there has been much rain for some time the grass will be too damp. One of the results of a want of exercise is pot-belly, of which we have already spoken. Young Rabbits are particularly liable to it, and it is a very serious complaint. One sees it very much in Rabbits bred under young people's care, and the cause is the giving of too much green stuff. Exercise and judicious feeding are the only remedies that can be prescribed, and they act much better as preventives than as cures. A cure may be effected in a week or two if taken in hand at once before the skin is very tight, but if left for a fortnight or more before being taken in hand the effects may be very disastrous, and may quite destroy the young Rabbit's chance of life.

The skin of young Rabbits is very soft. In their gambols, especially at exercise, sometimes a nail will tear the flesh and make an open wound. The amount of harm caused by this will depend almost entirely upon the state of the Rabbit's health. If it is poor and ill the wound will fester if not taken in hand, but if the Rabbit is plump—not over-fat—it will generally heal, and the hair will grow over the place if not deep. In any case precautions may be taken, especially if the Rabbit is either very fat or lean. The wound should be washed out with warm water at once as soon as it is discovered, and the hair around carefully cut off with a pair of scissors. A little sweet oil may be applied if the wound looks very raw, or a little water bandage if there seems any chance of festering.

Above all adopt with young Rabbits a systematic course of treatment, and keep them warm, dry, and very clean.—GETA.

VARIETIES.

FROM an admirable paper on dairy farming read at the Midland Farmers' Club by Professor Sheldon we extract the following on the testing of milk: The quality of really pure milk being

found to vary so very much, and according to such a variety of causes, it will be seen how very difficult it is to determine with fairness whether or not it has been adulterated with water; but if it is found to contain over 10 per cent. of cream it may be reasonably set down as being of average quality. There are various methods of testing the quality of milk, but most of them have the serious disadvantage of requiring either considerable time or skill, or both these, in their determination. The test by analysis is the most exact, but this can only be done by a clever practical analyst, and it is necessarily a tedious and expensive process. The quickest test is made by the lactometer, but the fatal objection to this is that it is easy to cheat it. The cheating may be done by simply taking a portion of the cream from the milk and putting in some water in the place of it. Cream and water being each somewhat lighter than milk, it follows that the specific gravity of the milk is easily maintained by a substitution of water for cream. The simplest test is the common graduated glass cream gauge, but the objection against this test is that it takes at least twelve hours in demonstration, yet it is sufficiently accurate for all practical purposes. There is yet another method; I saw it tried at the International Dairy Show in Hamburg in the spring of last year. The milk is put into a glass tube similar to a cream gauge, and the tube is then corked up and placed securely in a socket in a wheel, which is afterwards caused to revolve at a great speed. The rapid revolution causes all the cream to collect at one end of the tube—the outer end—and the creamless milk at the other. It is a simple contrivance, speedy and satisfactory in action, the whole operation being completed in about ten minutes or less.

— DURING the trying period of moulting, says Mr. Flower in the *American Fanciers' Journal*, on no account should the cocks be permitted to run with the hens; the birds should be fed generously, and given a little of the Douglas mixture if moulting does not progress satisfactorily. The mixture is composed of half a pound of sulphate of iron to half an ounce of sulphuric acid dissolved in two quarts of soft rain water; dose one table-spoonful to a pint of water, placed in a vessel for the fowls to drink from at will. In lieu of this a few old rusty nails put into the drinking vessel will have a beneficial effect. Few if any fowls ever die from moulting, but in fowls where so much depends upon the colour and marking of the plumage as in this breed, it behoves the fancier to see to it that his stock are well cared for during this trying period of their existence.

— 109,000 quarters of foreign wheat recently came to the port of London in one week. As we have in the United Kingdom 23,903,314 acres of permanent pasture, and 6,459,404 acres of clovers, saintfoin, and grasses under cultivation, and as they are especially favoured this moist season, we need not be surprised at the fall in price of butter, milk, and cheese. Only 1s. per acre difference on this immense area represents a sum of £1,518,130, either in quantity or value. There must certainly be a considerable increase in the production of meat. Grass farmers have little to pay for horse or manual labour, seed, or machinery. —J. J. MECHI.

— It appears that a German colonist upon the island of Java has successfully tried the cultivation of the native bee, *Apis dorsata*, which hitherto has been valued by the natives only for the larvæ. Herr Mayerhöffer even expresses the hope that it will be possible to acclimatise the Javanese bee in Europe.

— On the evening of Sunday, July 14th, on the porter on duty at Ledsham station, on the Chester and Birkenhead Railway, going to light the lamp of the distance signal, a swarm of bees was found in the lamp. The swarm was hived and removed, and the lamp lighted in time to prevent danger to the trains.

— THE man, says Mr. G. W. Neihardt, that adorns his home with shrubs and flowers, raises delicious fruits for his table, and desires the education of his children in every useful art that agriculture and home affords, will succeed in keeping bees. On the other hand, the one who has not the interest or energy to do all these things need not expect to get either money or honey from bee-culture. Some of the requisites to care even for a few stocks of bees are first a love for the bees. No one succeeds well who keeps bees with only large profits in view, for in this business "he who maketh haste to be rich" will surely fall into a snare. Second, knowledge and energy to do the right thing at the right time. This can be attained by reading and observation, and time and money thus expended will prove a good investment. Third, faith that bees will pay if rightly kept. A like faith is necessary in this vocation as that which the farmer exercises in all his farm matters.

— YOUNG chickens and ducklings will obtain a large part of their living from insects, if they have the opportunity. It is a good plan to give up a part of the orchard to poultry. Chickens and ducks want shade as well as sunshine, and thrive better for it during the summer. They are always on the watch for worms and millers, and greedily devour every insect that falls from the trees. They are fond of fruit, and consume the windfalls, which harbour the insects that are so destructive to fruit. A brood of

chickens left under an apple tree affected with cankerworms or caterpillars, will reduce the stock and finally exterminate them. One of the most successful fruit-growers we are acquainted with keeps poultry constantly under his trees. The apples and pears are fair, and he has paying crops every year.—(*American Agriculturist*.)

STILTON CHEESE acquired its name from Stilton in Huntingdonshire, where it was first publicly sold; but it is said to have been first made at Wymondham, near Melton Mowbray. At the Bell Inn, Stilton, it obtained such celebrity as to be sold by the landlord at 2s. 6d. a pound, and was called the English Parmesan. The process of making it was long kept as a secret. To the morning's new milk add the skimmed cream of the preceding evening's milking, with a proper quantity of rennet. When the curd has come it should not be broken in the usual way, but should be taken off carefully, and placed in a sieve to drain gradually. As it drains, gently press the cheese till it becomes firm and dry, and when taken from the vat keep it till quite firm, and repeatedly brush it. Great care is required to keep the cheese sweet and good till fit for use; the time of keeping till quite ripe is from twelve to eighteen months. In order to eat a Stilton cheese in perfection you must not only have one made of rich milk, but manage it well after it is made. To hasten the growth of green mould, several pieces of mouldy or over-ripe cheese are inserted into holes made for the purpose by a taster; wine or ale is then poured in. But the best Stiltons do not require this, for they are in perfection when the inside is soft and rich, like butter, without any appearance of mouldiness. In France, when a Stilton has become very dry, dealers wash it several times in soft water, and then lay it in a cloth moistened with wine or vinegar till it becomes soft and mellow, which it will inevitably do if it be a rich cheese. This simple method is generally practised in Switzerland, where cheeses are kept stored for many years, and if they were not salt and dry they would soon be the prey of worms and mites. It is then put into a shape in the form of a cylinder, 8 or 9 inches in diameter. When it is sufficiently firm a cloth or tape is wound round it to prevent its breaking, and it is set on a shelf. It is occasionally powdered with flour, and plunged in hot water; this hardens the outer coat, and favours the internal fermentation, which ripens it.—(*Cassell's Household Guide*.)

HONEY PROSPECTS.

THE last paragraph of Mr. Pettigrew's letter, July 11th, is most encouraging, and will, I hope, be verified in many parts of Great Britain. Here in West Norfolk we have hitherto had a season of swarming rather than honey-gathering, though there was much of both at the beginning of June. The latter half of the month was on the whole unfavourable. With the "good time coming" which Mr. Pettigrew promises us the much-needed addition to our stocks may be of great service next year, and there may even be a fair amount of run honey. But it is now too late to expect much from supers, and those that do get filled will not command high prices.

I have this year taken two supers full but imperfectly sealed, and have two fine ones not quite ready; whereas last year, much abused as it was, I had taken several full and well sealed a fortnight earlier. Perhaps some of your correspondents who go in for early supers will tell us how this year suits them.—E. H. R.

P.S.—Has anyone observed the rich colour of the early comb this year? As a rule the first combs in hive or super are of a delicate straw colour, which deepens as the summer advances. This year my late combs are the paler of the two.

OUR LETTER BOX.

BLACK DORKINGS (J. S. T.).—We have often heard of jet black Dorkings, but have never seen them. Some of the largest and best birds of the breed were very dark, and appeared black when hatched. Such were the birds shown for some years by Lord Berwick. No speckle or spangle on the plumage, but a very dark, almost black, feather, relieved by a white shaft. Such generally had brown breasts. The cocks showed brown, and sometimes white feathers, especially in the tail. There are frequently many changes to take place after chickens are eight weeks old, and we have little hesitation in saying that if they are black-feathered now they will not remain so. A black Dorking is an impossibility. It is the only inadmissible colour. Our advice to you is to buy the cocks, to put them with your own, and to choose for size and symmetry, shutting your eyes to feather. We have often seen these dark cocks birds of great size, and many of those that gained renown for Admiral Hornby were very dark.

CHICKEN FASTING (F. C.).—Fourteen days is a long period for a three-months-old chicken to have been without food; but we heard of a hen that was rather longer fasting, yet survived and lived for a year after.

HIVES WITH OLD COMBS (Triceps).—As the combs of your hives which have not swarmed are old and discoloured we advise you to drive the bees out of them into two empty hives and take their honey. If the weather became unfavourable for honey-gathering let the bees in the empty hives be well fed, and they will become far better stocks for keeping than the old ones. Let the bees be driven on an evening about seven o'clock; the process is simple and easy.

TIERS OF SUPERS (F. J.).—Theoretically you are right in fancying that in placing a tier of supers on a hive the empty one should be next the hive

or nearest home. Bees naturally store honey at the utmost and outermost points of their combs, and fill-up towards the centre. Thus, naturally, the finished supers should be above those that are in process of being filled and not travelled over by bees carrying honey to empty ones above them. Mr. Fox's supers about 100 lbs. each were filled on his adjusting principle—that is, by raising the super stage by stage, and thus keeping the bees at work near the crowns of their hives. Mr. Fox said he did not think his large supers could have been filled on any other principle. Your idea of placing the empty supers beneath the full ones is quite in harmony with the laws of Nature and the opinions and practice of Mr. Fox. But those who have managed the Stewarton hives for years approve of the empty supers being placed uppermost, and it appears they practise this mode of action, and as they are honest practical apianians we are bound to respect their opinions. Though they have not given us good reasons, or, perhaps, any reasons at all for placing the empty supers above the full ones, doubtless they are able to do so. We should be thankful if our friends will give us their reasons for choosing the course they pursue. The subject is important and should be well ventilated and understood. At present we are in favour of full supers being removed from their hives as fast as they are filled and finished.

FOREIGN INSECTS (T. Dorset).—The insects forwarded are of the species commonly known as *Anthrenus Muscorum*, beetles belonging to the family Ptinidae, in which are included several species only too destructive to specimens preserved in cabinets. The fact that the case appeared to be securely closed-up would be no obstacle to the parent beetles; the eggs being laid in some tiny crack in the wood, the young larvae would gradually work their way in. In such a case the insects must be removed from the infected case and exposed to the vapour of benzoline, or they might be placed for a short time in an oven or placed in a new receptacle.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.						Rain.
1878.	Barom. ter at 29 and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of air at 1 foot.	Shade Tem- perature.		Radiation Temperature.				
July.		Dry.	Wet.			Max.	Min.	In sun.	On grass			
We. 10	Inches.	deg.	deg.	N.W.	deg.	deg.	deg.	deg.	deg.	In.		
Th. 11	29.919	65.3	58.0	N.W.	62.8	70.4	54.4	119.6	51.0	—		
Fri. 12	29.884	59.9	56.2	S.W.	62.0	69.5	55.2	120.0	52.7	—		
Sat. 13	29.887	63.2	57.6	N.W.	62.0	69.0	55.4	105.4	53.2	—		
Sun. 14	29.931	64.0	56.8	N.W.	61.4	74.9	53.7	124.8	51.8	—		
Mo. 15	30.093	61.2	56.3	N.	62.2	73.0	50.6	118.2	48.4	—		
Tu. 16	30.202	62.1	57.8	W.	62.9	73.7	55.8	120.0	53.2	—		
Tu. 16	30.286	66.4	61.4	W.	62.9	78.7	51.5	124.5	48.1	—		
Means	30.032	63.2	57.7		62.3	72.7	53.8	119.1	51.2	—		

REMARKS.

- 10th.—Fair but overcast; dull cloudy evening. [evening.]
 11th.—Dull but pleasant morning, sunny and bright after 4 P.M.; very fine
 12th.—Fair day but very cloudy, and almost sunless; very slight rain in evening; dark night.
 13th.—Very bright sunny morning, cloudy dull afternoon; fine sunset.
 14th.—Fine throughout; very bright early, but afterwards overcast and close; slightly misty in evening. [fine afternoon and evening.]
 15th.—Another fine day, overcast and stormy-looking from 0 to 1 P.M.; very
 16th.—Bright, sunny, and warm day.
 A very fine week, but without extreme heat. No measurable rain.—G. J. SYMONS.

COVENT GARDEN MARKET.—JULY 17.

ALL kinds of soft fruit are now well in, and with fair crops are making good prices. The London season being nearly over, there has been a great decline in the value of Grapes, Peaches and Nectarines maintaining their prices. Pines are a good sale.

FRUIT.

	s.	d.	s. d.		s.	d.	s. d.
Apples.....	1	sieve	0 0 10 0	Melons.....	each	4 0 10 0	0
Apricots.....	dozen	1	0 3 0	Nectarines.....	dozen	4 0 12 0	0
Cherries.....	1 lb	0 6 1 6	0	Oranges.....	100	8 0 16 0	0
Chestnuts.....	bushel	10 20 0	0	Peaches.....	dozen	4 0 18 0	0
Currants.....	1 sieve	3 0 3 6	0	Pears, kitchen.	dozen	0 0 0 0	0
Black.....	1 sieve	6 0 6 6	0	dessert	dozen	0 0 0 0	0
Figs.....	dozen	6 0 12 0	0	Pine Apples...	1 lb.	3 0 6 0	0
Filberts.....	1 lb.	0 0 0 0	0	Piums.....	1 sieve	0 0 0 0	0
Cobs.....	1 lb	0 0 0 0	0	Raspberries...	1 lb.	0 6 1 0	0
Gooseberries..	quart	0 6 0 9	0	Strawberries..	1 lb.	0 6 1 0	0
Grapes, hothouse	1 lb	0 6 0 0	0	Walnuts.....	bushel	5 0 8 0	0
Lemons.....	100	6 0 10 0	0	ditto.....	100	0 0 0 0	0

VEGETABLES.

	s.	d.	s. d.		s.	d.	s. d.
Artichokes.....	dozen	2 0 4 0	0	Mushrooms....	pottle	1 6 10 0	0
Asparagus.....	bundle	2 0 6 0	0	Mustard & Cress	punnet	0 2 0 4	0
Beans, Kidney forced	100	6 2 0 0	0	Onions.....	bushel	2 6 3 0	0
Beet, Red.....	dozen	1 6 3 0	0	picking.....	quart	0 4 0 6	0
Broccoli.....	bundle	0 9 1 6	0	Parsley.... doz.	bunches	2 0 0 0	0
Brussels Sprouts	1 sieve	0 0 0 0	0	Parsnips.....	dozen	0 0 0 0	0
Cabbage.....	dozen	1 0 2 0	0	Peas.....	quart	0 9 1 0	0
Carrots.....	bunch	0 6 0 9	0	Potatoes.....	bushel	8 0 7 0	0
Capsicums.....	100	1 6 2 0	0	Kidney.....	bushel	5 0 7 0	0
Cauliflowers...	dozen	3 0 6 0	0	Radishes.....	doz. bunches	1 0 1 6	0
Celery.....	bundle	1 6 2 0	0	Rhubarb.....	bundle	0 6 0 9	0
Coleworts..... doz.	bunches	2 0 4 0	0	Salsafy.....	bundle	0 9 1 0	0
Cucumbers....	each	0 4 1 0	0	Scorzoneria...	bundle	1 0 0 0	0
Endive.....	dozen	1 0 2 0	0	Seakale.....	basket	0 0 0 0	0
Fennel.....	bunch	0 3 0 0	0	Shallots.....	1 lb	0 3 4 0	0
Garlic.....	1 lb.	0 6 0 0	0	Spinach.....	bushel	2 6 4 0	0
Herbs.....	bunch	0 2 0 0	0	Turpins.....	bunch	0 0 0 0	0
Leeks.....	bunch	0 2 0 4	0	Veg. Marrows..	each	0 4 0 6	0
Lettuce.....	dozen	1 0 2 0	0				

WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 25—31, 1878.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
25	TH	Society of Arts (Anniversary) at 4 P.M. Quekett Microscopical Club (Anniversary) at 8 P.M. 6 SUNDAY AFTER TRINITY.	Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
26	F		75.0	50.6	62.8	4 13	7 57	11 54	4 45	25	6 15	206
27	S		73.8	49.4	61.6	4 16	7 56	morn.	5 48	26	6 16	207
28	SUN		73.5	50.6	62.0	4 18	7 54	0 49	6 40	27	6 15	208
29	M	Hinckley Show. Weston-super-Mare Show.	74.6	51.3	62.9	4 19	7 53	2 0	7 18	28	6 15	209
30	TU		76.2	51.4	63.8	4 21	7 52	3 22	7 46	29	6 13	210
31	W		75.8	50.8	63.3	4 22	7 50	4 51	8 7	1	6 11	211
			75.1	50.4	62.7	4 24	7 48	6 20	8 25	2	6 9	212

From observations taken near London during forty-three years, the average day temperature of the week is 74.9°; and its night temperature 54.1°.

JUDGING AT EXHIBITIONS.

FROM time to time the advantages of the system of judging and awarding the prizes at the great London horticultural exhibitions have been pointed out, and the corresponding disadvantages of the modes adopted at some local shows have been incidentally alluded to.

The two systems in operation may be broadly described as open judging and blindfold judging. The one is founded on the principle of trusting to the honour of judges, the other is dictated by the petty and paltry jealousies of local exhibitors. In theory there can be no question as to which of the two principles is the better; and in practice, at least in regard to great shows of a general character, the principle based on a virtue instead of the one founded on something of a very different character, gives by far the greater amount of general satisfaction. The one mode is circumlocutory, cumbersome, slow in being carried out, and not infrequently results in inaccuracies; the other is simple in its nature, essentially expeditious in its operation, is seldom attended by mistakes, and scarcely ever gives cause for complaint by any who are in any way connected with the exhibition.

Never, perhaps, were the faults of the blindfold system of judging more apparent than at the great Show at Preston. The manner in which the prizes were affixed and the general administration of this department of the Exhibition constituted the greatest blot of the Show. The way in which the officials were worked and the general muddle in which they were involved evoked the sympathies of those to whom the work would have been easy had it been conducted on the usual system adopted by the Royal Horticultural Society. When the Society holds its next provincial Exhibition it is earnestly to be hoped that the duties in the department alluded to will be administered by the Society's officials, and that the common-sense system usually in operation will not be departed from in favour of one dictated by local fancies, prejudices, or jealousies, and which is altogether inferior.

The system adopted at Preston was rude in comparison with the plan that it was permitted to supplant. It may be well to contrast the two systems and their working.

At the London shows, as noticed by "EXHIBITOR" on page 50, every exhibitor's name and full address is plainly written on a card, on which is also printed the class, number, and designation of the exhibit. These cards are placed on the several collections before the judges commence their duties, the cards being simply turned face downwards, and on the back of each is written the class and exhibitor's numbers, which are all the judges care to see or do see. The awards are made to the numbers, and an official in attendance on each set of judges is provided with a supply of boldly-printed "first prize," "second prize," "third prize," and "extra prize" slips ("highly commended" and "commended" slips being also in readiness if required), which he places on the successful exhibits, at the same time turning the cards, and the work is done. There can

be no delay nor error where this plan is adopted. The judging and affixing of the prize cards are done simultaneously, the reporters can discharge their duties correctly and expeditiously—which is not of less importance to the general public than to the Society—and all is in readiness for the visitors, who can see just what they desire to see the moment they enter the show.

That is the open, judge-trusting, common-sense system of procedure which works so smoothly and so well at all London exhibitions of the Royal Horticultural Society, the Royal Botanic Society, the plant and fruit shows of the Crystal Palace Company, the shows of the National Rose Society, the National Pelargonium Society, the National Auricula Society, the National Carnation and Picotee Society, and at many suburban exhibitions. London exhibitors and critics are as keen as most people, but a complaint is practically unheard of in connection with the awards at the shows referred to.

The blindfold system as adopted at Preston was worked as follows:—Exhibitors' numbers and class numbers were alone placed on the cards before the Judges. The awards were made and attendants conveyed the slips to the office. The names of the successful exhibitors were then searched for, three or four officials clustering round one book, and then having to refer to other books for gardeners' names, addresses, &c. The names were then written on the prize cards. Another body of assistants then conveyed the cards back to the Show, and after some trouble—often considerable in finding their places—affixed them to the exhibits. But after all the time occupied and all the labour expended no addresses were written on the cards, and not always the name of the gardener; while in other instances the name of the gardener was given with the honour of "Esq." attached, the name of the owner of the collections being omitted. Yet with all these imperfections three hours or more elapsed before all the awards were affixed; whereas by the London system the work is done in two minutes. The faults alluded to—for faults they are—pertain wholly to the system and not to the officials who carried it out. No body of men could have worked harder than did those engaged in this department at Preston, and if they had been under a less cool head than that of Mr Moore the work would not have been executed so well as it was.

The object, it is presumed, of blindfold judging is to remove any cause of mistrust that might arise lest the judges should favour any particular exhibitor. It is simply absurd to suppose that any judges having a reputation at stake would do other than judge justly; but even if they were disposed to act otherwise, the numbering system would not only not prevent their doing so but would assist them; and for this reason, that they know by the plants, &c., whose collections they are judging, so that in point of fact the numbering system is all a farce. When the exhibitors' names are placed with the collections, although the judges do not see them, nor want to see them, that is the best possible security that can be devised that everything will be judged strictly on its merits. If the judges did otherwise they would simply have no defence; but if they

judged under number the very numbers would afford them valuable shelter. Let the judges be trusted, as they ought to be, and the same satisfaction will be given at the large country shows that is such a striking and pleasant feature of the London exhibitions.

ROSE SHOWING.

As Mr. Hinton says, ever since the Rose election, articles have been appearing in the Journal discussing the various points of an exhibition Rose; and the one point upon which nearly all the writers seem to agree is that a medium-sized Rose having good form, colour, freshness, &c., should rank above a larger Rose lacking either of these points. An instance is mentioned by one writer of a gentleman setting up a stand of undersized Roses in a small box, so that they were brought close together, and were consequently awarded the prize, being referred to as a nice even lot; while another stand containing some larger blooms was compared to a lot of Cochins' and bantams' eggs mixed up together. But it would seem as if the Judges at Hereford (I have not the least idea who they were) were of a different opinion. This makes it more desirable that the suggestion of printing the names of the judges on the schedules should be carried out.

In "WYLD SAVAGE'S" glowing word-picture of the above Show (and what a masterly hand he is at this work!) there are four points of excellence mentioned about Mr. Jowitt's stand of thirty-six, and three faults about Mr. Baker's—viz., "Mr. Jowitt's was more even, had more Teas, were more varied in colour, and the arrangement was a little better; Mr. Baker spoilt his box by inserting in the back row a large coarse bloom; his Capitaine Christy was a little past, and three Roses were a little undersized;" and yet he was awarded the first place! This seems like the reverse of the case referred to above.

In closing, let me say I am not an acquaintance of Mr. Jowitt's disappointed at his defeat. I never to my knowledge saw him, neither do I know Mr. Baker. I simply write in the hope that the cognoscenti will write further upon the subject of Rose showing and judging, and so the smaller fry will gain information, and perhaps some may fall to the lot of—A LOVER OF ROSE SHOWS.

P.S.—What about the rules for judging decided upon by the National Rose Society? [They are published in another column.—EDS.]

SEASONABLE NOTES ON FRUIT TREES.

SHOULD the present fine weather which we have experienced for the last two or three weeks last much longer, we shall hear no complaints next year of fruit trees bearing badly through the wood not having been well ripened. No doubt this is often one of the causes of a deficient fruit crop, and it is also very often the cause of fruit trees losing their branches and fine healthy-looking limbs dying-off at all times of the year without any apparent cause. But allow me to state that when this takes place I think it is frequently as much the fault of the cultivator as the absence of sun or any other cause. If we may judge other people's trees from our own they will have made a great quantity of wood during the early wet part of this season, and to allow early spring and summer growths of this kind to "hang as they grow" until the end of the season, or until they are pruned and nailed again, as is very often the case, no amount of sun will have fruitfully matured the wood, simply because in masses of young wood the sun only scorches a few of the leaves on the face and never penetrates to the base of the shoots, which is the chief fruit repository of another year.

It is some weeks since we went over all our trees, and they are now being gone over again. On the wall trees all the shoots which have grown straight out were cut-in to 2 or 3 inches from where they started, and where there was room to extend the branches the points were left untouched. The standards were treated in much the same way, only some of the leading shoots were cut at 8 or 10 inches from the base, and the others from 2 to 3 inches. Before doing this it was quite impossible to see the main stems of many of the trees, and to leave such a quantity of wood with the intention of its ripening was quite out of the question; but after the shoots had been shortened the sun and air penetrated freely to every part of the wood, and whatever our crops fail for next year, it will not be for the absence of hard wood and plump eyes or

buds. The work at the second pruning is light, as it is only a twig of a second growth here and there that has to be taken off, and the leading points which were left last time tied-in. Many will say they have no time to go over their trees in this manner, and I know it is the case in many gardens where there is only one man to do the work of three; but even in cases where this false economy is carried out, I strongly advise that whatever else is neglected try to find time just now to cut-in the wood of your fruit trees. Do not leave it until winter when there is more time, as then all the good influences of the summer, and especially of the sun, will be lost.

Pears, Plums, Apples, and Apricots may always be "spurred" in; but Peaches and Cherries, especially Morellos, should have the strongest shoots tied in and all the weakly or superfluous growths cut away. It is this that insures the thorough ripening of the fruit-bearing wood, as well as balancing the growth of the tree and doing that justice to it which every tree deserves that is expected to produce a fair supply of fruit. The more wood there is on the tree the greater is the demand for attention, and the more shaded the situation may be the greater the necessity of exposing the permanent growth. Apart from the advantage the trees derive from work of this sort now it is a gain in other ways; as where cutting off the shoots is done carefully now little or no winter pruning is required, and the wounds at the points of the spurs are healed over without being exposed to severe weather in winter.

We do not nail-in the shoots of our Peach trees at the present time, but the points of the shoots are cut from the Currant bushes, the leaves stripped off, and the shoots pressed back with them, each end being fixed behind some of the old nailed-in branches. This holds them very well until the trees are overhauled in winter, and at the same time it opens up the Currant bushes by using their young shoots. When time will allow, Gooseberries, Raspberries, and all kinds of small bushes are benefited by having their wood thinned at the present time.—A KITCHEN GARDENER.

BUILDING A GREENHOUSE.

IN the construction of a greenhouse, he who best combines strength, lightness, and soundness is most successful, for these are the fundamental points of most importance. Add to them a good method of ventilation, of staging, of affording artificial heat when necessary, use good materials, let the workmanship be honest, strong, and true, and you will have all that is essential in your building and nothing that is superfluous. Ornamental ridging, porticos, ironwork, may of course be added *ad libitum* according to individual fancy, but they are unnecessary, and need not, therefore, be taken into account in a paper devoted solely to matters of practical importance.

A correspondent asks for assistance about the details of a span-roofed greenhouse about 20 feet wide, and I have made a few sectional drawings calculated to set the matter clearly before him and the numerous readers of the Journal to whom such hints are likely to prove useful. Fig. A represents a transverse section of a plain serviceable structure, drawn to a scale of one-fifth of an inch to a foot. The points of importance, and to which attention must be given, are:—

The Roof.—This is only 5 feet high at the eaves and 10 feet at the apex. It consists simply of fixed rafters morticed into a ridge-board at top and an eave-board at bottom. The width of the ridge-board (fig. B) depends upon that of the sashbars. Two inches will be thick enough for the house we are treating of. Fig. C represents a section of the beading fastened by screws or nails to the top of the ridge-board, as in fig. D, to preserve it from the action of the weather as well as to impart finish to the building. Fig. D also shows how the sashbars are morticed into the ridge-board, 1, 1, and how a groove, 2, 2, for the glass is ploughed in the ridge-board above each tenon. In glazing especial care must be taken to thrust the glass to the top of these grooves, so as to make the ridge weather-proof. The size of the sashbars is determined by their length and whether it is intended to strengthen the roof with stays or pillars with such excellent supports as shown in fig. A. A bar of the form shown in fig. E, $2\frac{1}{2}$ inches by $\frac{1}{2}$ at its widest part, answers very well, with every fifth bar like the section fig. F, in size $3\frac{1}{2}$ inches by 2. When interior supports are not used the bars should be 3 inches by $1\frac{1}{4}$, with every eighth bar $3\frac{1}{2}$ inches by 3. I have given all these bars a thorough trial and can recommend them. The eave-board (fig. G) should be 4 inches by 2, bevelled as shown, and with the small semicircular groove 1 to prevent any moisture creeping into the house under

the eaves, as will happen without the groove. In exposed windy situations additional strength may readily be imparted by bolting a few iron braces to the angles of the building at any convenient point, as in fig. H. Pieces of bar iron bent to the required angle, flattened, and holes pierced at the ends by a blacksmith, answer admirably, and are neat enough in appearance when painted.

The roof support which I have designed for this house, though somewhat novel, is, I think, preferable to the ordinary method. It consists of central pillars with two arms springing through the central tier of the stage at about 9 feet apart. The hanging baskets, 1, 1, have a counterpoise at the end of a chain or cord running over a wheel, so as to be raised or lowered at will for convenience in watering and inspection of

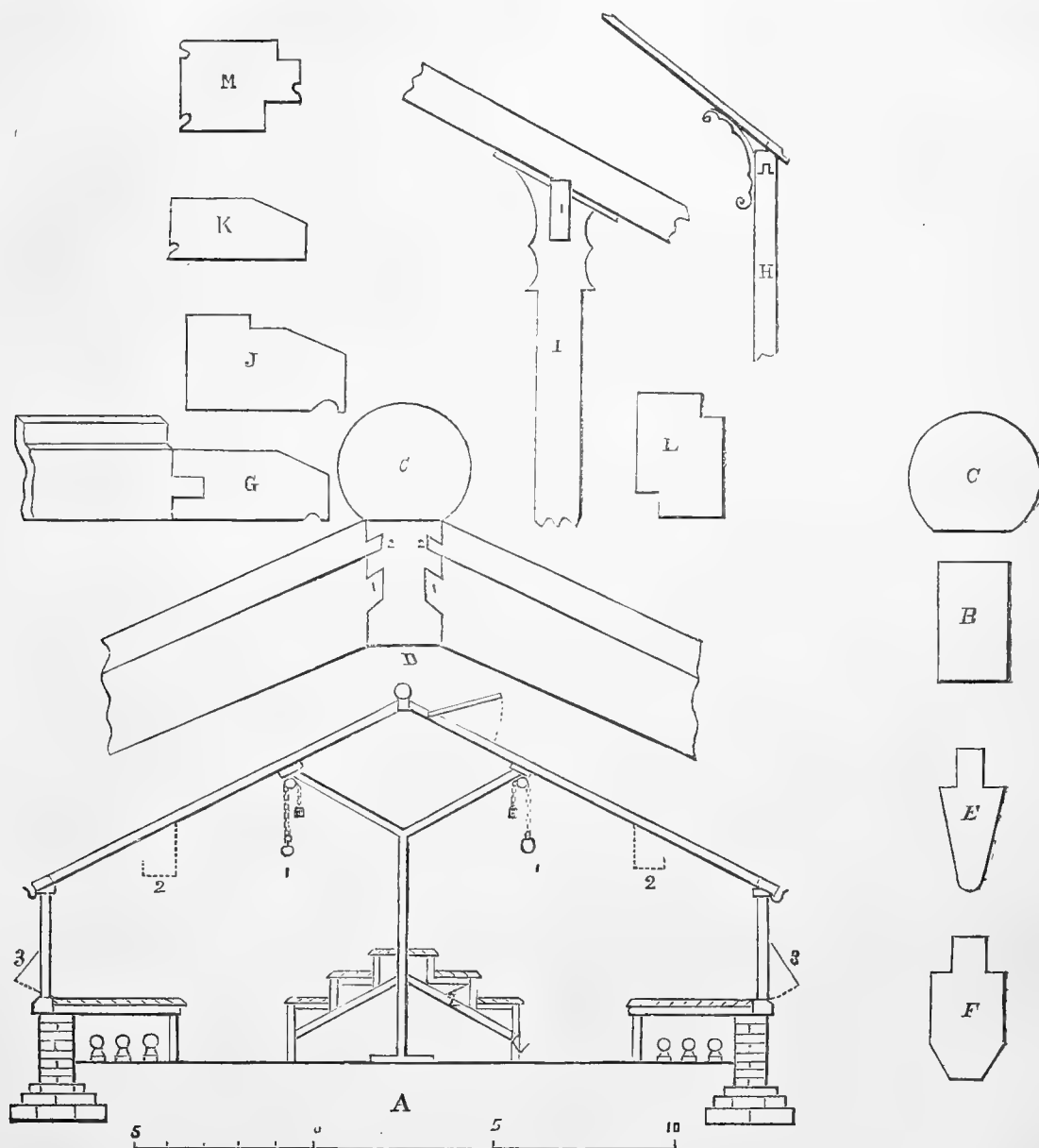


Fig. 9.—PLAN OF GREENHOUSE.

the plants. The effect of two such rows of baskets when well filled would be pleasing and materially enhance the appearance of the interior. To those who prefer the usual plan of side pillars fig. I will be useful, as showing a longitudinal sectional portion of such a pillar, with a slot cast in the top to admit a flat iron bar on edge, 1, running along under the roof from end to end, and forming a capital support, so slight as to make no appreciable shade, and yet very strong; in size it is 3 inches by half an inch. The brackets for hanging shelves in fig. A, 2, 2, are objectionable as spoiling the appearance of the interior, but such shelves are so useful that I have shown where they should be placed for the guidance of those who are compelled to use them.

The Sides.—Here the sashbars are similar to those in the roof, the only difference being in the large size, which, as they help to support the roof, are 3 inches by 3. They are morticed into the wall plate J, which is about 6 inches by 2½ or 3, as may prove most suitable, and into an eave plate K, 4 inches by 2½. The angle pieces for the corners of the building, L, are 4½ inches by 3, and have rebates, 1, 1, for glazing and for ventilators to shut into. When side ventilators are introduced, 3, 3, fig. A, they consist simply of a frame 2½ inches by 1½, grooved for the glass, with sashbars morticed into the frame, and are suspended by hinges to a fixed bar 2½ inches by 1½, into the upper side of which the top side fixed sashbars are morticed. Although mention is made of side ventilators, it is by no means

intended to imply that they are an indispensable necessity, for if the roof ventilation be but thorough, side ventilation is not wanted, and fixed sides point of course to a considerable saving. Let, therefore, the roof ventilators run from end to end of the roof, and consist of a clear space of quite 2 feet in width, so as to admit such a large volume of air as to insure a brisk and thorough circulation. Avoid a cheap opening apparatus, let it be strong, and yet so easy that a touch may set it in motion. The best principle is that of a spiral shaft and stout-jointed levers by which the ventilators may be regulated to a nicety. The brickwork of the sides and ends consists of five courses above ground and six courses below, inclusive of the footings. The walls are 9 inches thick, and the footings are respectively 13½, 18, and, 22½ inches, so that a yard in length of wall and footings will require 112 bricks, and to make enough mortar for five hundred bricks it requires three bushels of new grey lime and eighteen bushels of sand.

The doors should be 1½ inch in thickness, and the doorposts 4 inches by 3, with rebates and beading as in fig. M; rebate 1 in for door and 2 for glass. The central stage has upright supports 2 inches by 2 (see 4, fig. A), and the braces (see 5, fig. A) are 3 inches by 2. The strips forming the shelves are 2 inches by 1, with half-inch spaces between every two strips. The woodwork of the side stages is of the same size.

The glass for the roof to be 21-oz. seconds; size of squares, 20 inches by 12; and for the sides and ends 16-oz. answers very well. The hot-water pipes to be 4-inch and slightly elevated above the floor on pipe stands as shown. The scale is only for fig. A.—EDWARD LUCKHURST.

NOVELTIES IN THE ROYAL GARDENS, KEW.

ANTHURIUM BAKERI, a new species, is bearing splendid fruit in the house No. 1. It is always pleasing to note the adaptation of a novelty to some special purpose; and this, unlike any other species we remember, has decidedly ornamental and persistent fruit, and appears suitable for showing in a loose arrangement of cut flowers. To such, an addition of this kind is both in good taste and generally attractive. The berries are scarlet and grow very densely on a spike 4 inches long; its spathe is small and green without any beauty. In habit this plant is similar to *A. Schertzerianum*, but is quite distinct in its long, narrow, coriaceous leaves. It was introduced from Costa Rica.

In the herbaceous department *Fritillaria Hookeri*, an important and quite recent introduction, has just flowered. It is so intermediate in character as to be classed with almost equal propriety among the Lilies, and this with its unusual colour, a pale lilac, makes it a most interesting plant. Its nearest ally, *F. macrophylla*, is perhaps best known as *Lilium Thomsonianum*, but we follow Mr. Baker, who has devoted the most critical study to this as well as to most other groups of *Monocotyledons*. The peculiarity of its colour is immediately noticed, and also that there is no tessellation, then, that the bracts form but one series with the leaves. The lowest flower is subtended by a leaf of considerable size, and the highest by a small bract. It grows about a foot high, and bears five or six flowers an inch long. Sir Joseph Hooker discovered this *Fritillaria* in the temperate region of the Sikkim Himalaya, where it grows at a height of 9000 to 10,000 feet, and to Mr. Elwes is due the credit of its introduction. *Primula capitata* is a rarity of great merit on the rockwork. It has a dense head of remarkably deep blue-purple flowers, and the scape is covered with a dense white meal, making it still more attractive. It was introduced some years ago, but we believe had been lost till recently. The new *Delphinium Cashmerianum* is also in flower; it has blue flowers and very dwarf habit, which makes it suitable for positions to which most other species are not adapted. On the strip of rockwork devoted to the order in the herbaceous ground we find *Sedum sempervivoides*, a rare species not unlike *Sempervivum* in foliage, but when it flowers is strikingly like a small scarlet-flowered *Rochaea*. *Umbilicus Sempervivum*, now past its best, is also worthy of note; it has a pretty rosette of broad leaves and with a large number of pale pink flowers. *Antholyza angusta* and *A. Meriana* var. *Ludwigii* are Irids of great merit for the open ground, appearing as they do to be hardy. The first is scarlet and the latter inclines towards salmon. Both are of similar shape, having long tubular flowers with spreading limb.

Haemodorum aurantiacum is quite a picture in the house No. 4, and we venture to draw attention to it, since, though not new, it is still uncommon and known to few. The panicles

are a foot long and composed of numberless bright yellow flowers. It is planted out, and in that way, like its relative *H. elegans*, appears to do much the best. *Berberidopsis coralina*, perhaps the most ornamental of climbing *Berberids*, is now profusely bearing its globular deep red flowers.

Trapa natans is flowering and fruiting freely in the Victoria tank. It is known usually as the Water Chestnut—sometimes, however, as Water Caltrops, from its resemblance to an instrument of ancient warfare used to impede the progress of cavalry by strewing it on the ground. It has considerable interest and value, the first on account of its peculiar fruit, the horns of which, it is interesting to observe, are the enlarged persistent sepals. Here the transition is clearly seen. In the south of Europe, where very abundant, the farinaceous part is made into bread and also is eaten raw extensively; it is said to have formed a considerable part of the food of the ancient Thracians. It has been suggested that it would be a valuable introduction to this country and might be naturalised. The possibility of its becoming so is more than doubtful, since it rarely flowers under cultivation out of doors, and still more rarely fruits. In the Victoria tank, too, it seems to enjoy the temperature of 85° Fahr., and is quite at home. The floating triangular-toothed leaves form elegant radiant clusters, and the petioles have a spindle-shaped swelling analogous to that of *Pontederia crassipes*.

In the Palm house may be noted an *Acanthad*, evidently useful and ornamental, but still unknown, we believe, out of Kew. This is *Beleperone plumbaginifolia*, a native of Brazil. Its branches freely into many slender stems, which arch in a graceful manner. The leaves are ovate-lanceolate, 2 or 3 inches long, each in its axil bearing a cluster of flowers in shape and colour much like those of the old favourite *Justicia carnea*, but slightly reduced in size. In the Lily house *Batatas paniculatus*, a splendid climber with lilac flowers, similar in shape to those of *Ipomœa Horsfalliæ*, but still larger, is growing round the rails of the tank at a fast rate, and bids fair to form for it a floral wreath.

Among choice ornamental shrubs we notice several to be very fine at Kew. *Rosa moschata* has free growth, suitable for rambling over rocks or roots, and the profusion of single white flowers makes it highly attractive. Among the *Ligustrums* we know of none more graceful than *L. sinense*; it has light-looking foliage, and the panicles of white flowers have had a fine effect in several shrubberies. *Spiræa Nobileana* is in fine condition, and the less known *S. arisæfolia* will shortly have an appearance almost equal to masses of *Hoteia*.

Scolymus maculatus, a Thistle-like plant with many stems of brilliant yellow flowers, is now the most showy of herbaceous plants at Kew. It grows about 3 feet high, and for the wild garden is a splendid plant. *Salvias* are interesting to many, and a species we have not before seen is *S. farinacea*; it grows erect, bearing pretty ovate smooth leaves, with spikes of delicate blue flowers, each with a white spot on lower lip. *Veronica devoniensis* forms a neat-growing dense shrub; the leaves are small, and the racemes of white flowers are numberless. *Phlomis fruticosa*, the Jerusalem Sage, is an old favourite well known to many, and one of the most quaint plants for select shrubberies.

WOLVERHAMPTON HORTICULTURAL SHOW.

THIS was in every respect a good one, and showed a marked improvement on the last held. Some of the best exhibits came from very unpromising localities, being uncomfortably near to the Black Country, and consequently reflected greater credit on the exhibitor for the extra care and attention necessarily bestowed on them; in fact being a good instance of what competition will encourage men to do under difficulties. The best collection of plants was staged by Mr. Taylor, gardener to J. Evans, Esq., who was also first in the classes for stove and greenhouse plants, fine-foliaged plants, a collection of fruit, Pines, Peaches, and Tomatoes. Mr. Bucknell, gardener to H. Lovatt, Esq., was first in the classes for a single specimen foliage plant, *Achimenes*, and *Cockscombs*. Mr. Edwards, gardener to E. F. Smith, Esq., was first for Black and White Grapes, Cucumbers, Calceolarias, and a single plant in bloom. Mr. Coleman, gardener to W. Bayliss, Esq., was first for British Ferns, *Gloxinias*, and *Caladiums*. Mr. Crowe, gardener to Staveland Hill, Esq., M.P., was first for Zonal Pelargoniums, Potatoes, &c. Mr. Witts, gardener to D. North, Esq., was first for Exotic Ferns and the heaviest bunch of Grapes; and Mr. Dean, gardener to R. Kittle, Esq., for Pelargoniums, a collection of plants, Balsams, &c. The competition in the *Fuchsia* classes was very spirited, the first prize being well won by Mr. Collins, gardener to E. F. Gough, Esq., who was also successful in other

classes. There was an extraordinary competition in the class for a pot of Musk, Mr. Perry, an amateur, winning with a plant fully a yard high. The Show remained open for two days and was well attended.

STANDARD ROSES AT RATHRONAN MANOR, CLONMEL.

ANXIOUS to see a superior stock of standards well grown in Ireland, and to inquire into the mode of procedure, I visited the beautifully situated country residence of "Judge" Gough as he is popularly called here, and was shown over the gardens and grounds by Mr. Mulcahy, by whom they are managed. We were struck at the entrance by the tall colonnade of stately Beeches, and with their gently undulating grassy slopes on each side of the avenue. The lawn was studded here and there with old majestic-looking forest trees that must have braved many a storm and seen years of time and change. After a look through a carefully cultivated vegetable and fruit garden, well-stocked viney (the Grapes being a heavy crop), and one of the most neat and tasty greenhouses it has been our lot to see, we come to the pleasure ground and flower garden terraced immediately in front of the mansion. This space is divided into two squares, and along the margin of these we found the immediate object of our visit, a profuse bloom of healthy and well-grown standard Roses—a splendid contrast with the carpet bedding and subtropical gardening. Four beds of Tuberous Begonias particularly were also very striking.

There are peculiar circumstances where the Rose must be cultivated as a climber, as on walls, trellises, or pillars—cases, and too rare, where it should be employed as a bedder. None can compare, however, in my opinion to the standard shape and habit of growth. As there are always beginners in Rose culture, and as the present is the season for budding, a few notes thereon may be seasonable.

Attempts are sometimes made to bud on the Briar where found growing, with the view of transferring when established; but such experiments are generally not repeated. A better plan is to collect a sufficient number of clean, healthy, and sufficiently advanced Briars in the autumn, and transplant them in lines in a cool and rich border of the vegetable garden, trimming the roots and heads with judgment. There they grow luxuriantly, and the superfluous buds are rubbed off, leaving only shoots on which you intend to operate. In July they are growing vigorously, and as soon as buds are sufficiently advanced they should be inserted. If you have them not, no gentleman or gardener will refuse them to you. Success in budding very much depends on the state of the weather, dull damp weather conducing much to success; but it should ever be borne in mind that your main object is to insert the bud on the stock as it was growing on the parent stem, and to take every precaution that it receives few checks. Anything that induces reciprocity of sap-circulation between stock and bud, as damp moss, a Cabbage leaf, &c., in parching weather will materially conduce to success. Rather than attempt describing the process of budding, I say to beginners, Go and insert half a dozen buds under the direction of an expert, and you will, after understanding the object in view, be ever after able to do it for yourself.

At Rathronan, the soil being of a loamy nature, the Dog Rose answered admirably as a stock. In adjoining localities Roses only succeed well on the Manetti. For instance, at Minella Gloire de Dijon, John Hopper, Jules Margottin, François Arago, and many others were found only to succeed well on the Manetti stock by the intelligent head gardener there. As to soil, nothing is better than a good old loam with a suitable admixture of old decayed manure. The typical manure is one or two years-old hotbed, well decomposed. Thus prepared as here, the new Roses are removed as required from their lines in the vegetable garden border; and with due attention to pruning and disbudding for some time until the requisite form and shape are attained success will in nine cases out of ten reward your exertions.

The following are the principal Roses that flourish well as standards in this part of Ireland—

Hybrid Perpetuals.—Beauty of Waltham, rosy carmine; Charles Lefebvre, velvety crimson; Eugène Appert, dark crimson; John Hopper, rosy crimson; Jules Margottin, cherry; Baron Rothschild, carmine; Madame Victor Verdier, vermillion; Madame Rivers, flesh; Sénateur Vaisse, scarlet; Victor Verdier, cherry rose; Miss Ingram, white, with centre flesh. The foregoing are old-established favourites, and the following are very superior kinds more recently introduced—Etienne Levet,

almost thornless, carmine red; Ferdinand de Lesseps, purple; Edouard Morren, glossy pink; Alfred Colomb, fiery red; Abel Grand, silvery hue; Capitaine Christy, flesh, shaded to rose in centre; Boule de Neige, small flowers, pure white; Docteur Andry, brilliant red, imbricated; Duke of Edinburgh, fine vermillion; La France, lilac rose; Madame Marie Cointet, bright rose; Madame Lacharme, a fine white; François Michelon, deep red, seedling probably of La Reine; Centifolia Rosea, clear rose, very fragrant.

Noisette.—Céline Forestier. *Bourbon*.—Baronne de Boumont, light rose; Narcisse, primrose yellow; Triomphe de Rennes, canary yellow. Maréchal Niel and Gloire de Dijon and other climbing, pillar, and Moss Roses are well represented at Rathronan.—W. J. M., *Clonmel*.

ROYAL HORTICULTURAL SOCIETY.

JULY 23RD.

THE tables surrounding the Council-room were quite filled with plants, cut flowers, and fruit, some exhibiting superior cultivation, and others being new and submitted for certificates. There was also a good attendance of horticulturists, and the meeting on the whole was a successful one.

FRUIT COMMITTEE.—Henry Webb, Esq., V.P., in the chair. Mr. Clark, The Gardens, Melton Constable, East Dereham, sent five varieties of Melons, two of which were seedlings, named respectively Melton Gem and Melton Favourite, neither of which was of great merit, but a letter of thanks was awarded for the collection. Mr. W. Wynne, The Gardens, Worthorpe Road, Stamford; Mr. Andrew Donaldson, The Gardens, Stoodleigh Court, Tiverton; Mr. William Chapman, West Park, Salisbury; and Mr. J. Lane, Pyrgo Park, all exhibited seedling Melons, none of which were of sufficient merit. Messrs. Veitch & Sons exhibited a Pine Apple from Peru grown at Wycombe Abbey. It has a smooth leaf like the Smooth-leaved Cayenne, but the flavour was inferior. Messrs. Charles Lee & Son, The Vineyard, Hammersmith, sent a fruiting branch of Lawton Blackberry. Mr. Killick of Langley, Maidstone, sent a branch of Loddington Seedling Apple, showing its wonderful fertility. Messrs. Rivers & Son, Sawbridgeworth, sent eight varieties of their new seedling Nectarine, and seven of Peaches. The most remarkable of the former were Humboldt, Byron, Stanwick Elruge, and Dante. They also sent two dishes of Cherries Late Black Bigarreau and Gros Coureut, to which a cultural commendation was awarded. A few dishes of Doyenné d'Été Pears were sent from the garden at Chiswick, which were quite ripe.

FLORAL COMMITTEE.—Dr. Denny in the chair. Lady Dorothy Neville, Dangstein, Petersfield, sent some remarkable Cockscombs, the colour ranging from crimson to orange, and besides the large terminal combs smaller combs were freely produced from the stems of the plants quite down to the soil. A vote of thanks was awarded. A similar award was made to Messrs. James Veitch & Sons, who exhibited wonderfully well-grown examples of *Celosia pyramidalis*. The plants, although only grown in 5-inch pots, were luxuriant and well-furnished pyramids 4 feet high, and were covered with bright crimson plumes. A variety so good as this is and as well grown is very valuable for decorative purposes. Messrs. Veitch also exhibited a new *Torenia Baillonii*, the tube of the flower being almost black, and the segments deep yellow. The Committee desired to see it again. They also exhibited a splendid basket of the dwarf and extremely floriferous hardy shrub *Olearia Haastii*, for which the thanks of the Committee were recorded.

Mr. G. F. Wilson, F.R.S., exhibited a splendid specimen of the Swamp Lily of North America, *L. superbum*, to show that it could be well grown in a pot. The two stems were 8 feet high, and contained about two dozen of beautiful flowers. A vote of thanks was awarded. Blooms of a seedling Lily were submitted by Mr. Wilson as having been raised by Mr. J. H. Mangles, Haslemere, and supposed to be the result of a cross between *L. dahuricum* and *L. elegans*. The flower is 6 inches in diameter, has narrow waved petals, bright yellow, and richly spotted.

A wonderful strong example of *Disa grandiflora* was sent by Mr. Speed from Chatsworth. The stem at the base was quite an inch in diameter, and was surmounted by eight fine flowers. A cultural commendation was awarded. Some fine pans of the same fine terrestrial Orchid were sent by Sir W. Marriott, Bart., Down House, Blandford, who was awarded a vote of thanks.

Mr. H. James, Castle Nursery, Lower Norwood, exhibited the seldom-seen *Oncidium curtum*, the single spike containing upwards of twenty chestnut-coloured flowers with yellow lip; also *O. prætextum superbum*, with very rich brown sepals and yellow lip. Mr. Smith, Caledonian Nursery, Guernsey, sent spikes more than 6 feet high of *Sparaxis pulcherrima* covered with large rosy lilac bells: It is a striking plant, and is probably hardy in Guernsey. It was introduced from South Africa in 1866. A vote of thanks was awarded. Messrs. F. & A. Smith, Dulwich, sent about eighty Balsams, very sturdy well-grown plants with large double flowers

in clear and distinct colour—a very excellent strain, for which the thanks of the Committee were recorded. Mr. G. Scott, The Gardens, Ewell Castle, sent a seedling *Gloxinia* with very pure white throat and blue lobes faintly edged with white. Mr. Cannell sent a splendid collection of cut blooms of *Verbenas* and *Petunias*. Mr. Wills, South Kensington, exhibited a group of double *Stocks* raised from seed sent by M. Doppleb, Erfurt. They are dwarf, and some of the colours are clear and rich.

Mr. Turner, Slough, exhibited a box of twelve blooms of his grand, new, velvety, scarlet *Rose Harrison Weir*. It is somewhat of the *Xavier Olibo* colour and the *Marie Baumann* form, and if its constitution is good, as the character of the blooms suggest it to be, it will be a good *Rose* for years to come. It is strikingly glowing, and the petals are of remarkable substance. It is a splendid addition to an already rich section, and is one of the finest *Roses* ever sent from Slough. A first-class certificate was awarded.

A large assortment of dwarf well-flowered plants of the newer varieties of double and single zonal *Pelargoniums* were sent from Chiswick, also a varied collection of *Abutilons*, floriferous plants of *Torenia Fournieri*, and cut blooms of *Phloxes*, richly coloured *Dianthus* of the *Heddewiggii* type, and cut flowers of *Clove Carnations*.

THE STRAWBERRY AND RASPBERRY CROPS.

THE season here for Strawberries is now drawing to a close, and I am able to speak as to the results. The crop has been very fair, but not equal to the very abundant crop of last year. As I anticipated, a few of the later blooms did not set well.

The weather here since the 20th of June has been fine, and very favourable for the ripening of the fruit. We had several hot days at the end of June with the thermometer over 80°, and two days at 90°, but this great heat fortunately did not continue. From a small bed of Sir J. Paxton I gathered a few quarts of Strawberries, and out of the number there were about a dozen which turned the scale at 1½ oz., which I thought pretty fair for a bed which has been down six years. I have several fresh sorts on trial, and if you think your readers would be likely to be interested in my remarks about them will send a further communication.

A better crop of Raspberries than I have this year never rejoiced the heart of the cultivator, and there has been only one little shower since they came in, so the quality for preserving is excellent.—AMATEUR, Cirencester.

NATIONAL CARNATION AND PICOTEE SOCIETY'S SOUTHERN SHOW.—JULY 23RD.

LAST year the Show was held at the Westminster Aquarium on July 18th, a date which was fully too early for the flowers. This year the Show was held at South Kensington under the auspices of the Royal Horticultural Society, and owing to the great heat that has recently prevailed the fixture proved somewhat late for many of the southern flowers. Still no great injury resulted to the Exhibition, for the chief southern growers, Mr. E. S. Dodwell, Mr. Douglas, and Mr. Turner, exhibited splendid stands; and competitors from Lancashire, Yorkshire, Warwickshire, and Somersetshire staged many charming flowers and shared in the honours of the day. The Exhibition was arranged in the entrance vestibule approach to the Council-room, than which no place could have been better adapted for the purpose, and the Show was excellently managed by Mr. Dodwell and his coadjutors, the flowers being staged in good time and everything worked smoothly and well. It was a beautiful and successful Exhibition, and both as to extent and high quality exceeded the anticipations of the fanciers who attended it from various parts of the country.

CARNATIONS.—In Class A, for twenty-four blooms in not less than twelve varieties, six collections were staged. Mr. Douglas, gardener to F. Whitburn, Esq., Loxford Hall, won first honours with flowers of remarkable beauty. They were smooth, fresh, and in brilliant colour. The varieties were *Eccentric Jack*, *James Taylor*, *Admiral Curzon*, *James Douglas*, *James Cheetham*, *Rev. G. Rudrick*, *Isaac Wilkinson*, *Capt. Stott*, *Sybil*, *Rose of Stapleford*, *Squire Meynell*, *True Briton*, *Earl of Stamford*, *Sarah Payne*, *Bifeman*, *John Keet*, *Dreadnought*, *James Merryweather*, *Lord Lewisham*, *J. D. Hextall*, *The Clipper*, and a magnificent bloom of *John Bailey* which was selected by the Judges as the premier *Carnation* in the Exhibition, and was awarded the prize accordingly. Mr. George Rudd, Undercliffe, Bradford, had the second prize with somewhat smaller flowers, but clear and beautiful in colour. The varieties different from those above named were *John Simonite*, *Juno*, *Mars*, *Sportsman*, *Clipper*, *Satisfaction*, *Sir J. Paxton*, and *Dr. Foster*. Mr. E. S. Dodwell was a very close third. Some seedlings in this stand were highly attractive, and all were, if rather small, highly finished blooms. The fourth prize was awarded to Mr. Jonathan Booth, Manchester, with flowers not so highly dressed as some others yet very fine

In Class B, for twelve dissimilar blooms, eleven collections were staged. The first prize was awarded to Mr. E. S. Dodwell for wonderfully rich blooms of undoubted high quality. The varieties were *Falconbridge*, *Admiral Curzon*, *James Taylor*, *John Keet*, *Jas. Cheetham*, *Marshal Ney*, *Graceless Tom*, and some fine seedlings. Mr. Douglas was second with rather larger flowers but less smooth and massive in petal; the *rose-flake Sybil* was beautiful in this stand. Third honours went to Mr. S. Brown, Crompton Road, Handsworth, Birmingham; and the fourth to Mr. Buttrum, Burgh Mills, Woodbridge, both staging good collections but not elaborately dressed flowers. The fifth prizes in the above classes did not appear to be placed when we left the Exhibition.

In Class C, for six blooms dissimilar, only three collections were staged. Mr. Medhurst, Priory Road, Handsworth, won the first position with *Falconbridge*, *J. D. Hextall*, *Admiral Curzon*, *Mercury*, *Lovely Ann*, and *Florence Nightingale*; second honours going to W. H. Dodwell, Esq., Sidney Villa, Stockwell; and third to J. T. D. Llewellyn, Esq.

In the single specimen classes the following prizes were awarded. *Scarlet Bizarres*.—First, Mr. Douglas with *True Briton*, second Mr. Jonathan Booth with *Garibaldi*, third Mr. John Fletcher with a seedling, fourth, Mr. Brown with *Admiral Curzon*, and fifth Mr. Douglas with the same variety. *Crimson Bizarres*.—First Mr. Douglas with *Jenny Lind*, third with *John Simonite*, fourth with *Capt. Stott*, and fifth with *Lord Milton*; Mr. Turner was second with *John Simonite*. *Pink Bizarres*.—First and fourth Mr. Douglas with *Jas. Taylor*, second Mr. Buttrum with *Sarah Payne*, third and fifth Mr. Hines with *Eccentric Jack*. *Purple Flakes*.—Mr. Douglas was first with *James Douglas*, third and fourth with *Squire Meynell*; and Mr. George Rudd was second and fifth with *Ajax*. A rather weak class, the flowers having lost their freshness. *Scarlet Flakes*.—Mr. Buttrum was first with *Annihilator*; Mr. Douglas second with *Clipper*, third with *John Bailey*, fourth with *Sportsman*, and fifth with *Clipper*. *Rose Flakes*.—Mr. Douglas was first with *Sybil*, second with *John Keet*, and fourth with *Rose of Stapleford*; Mr. Brown was third with *Mrs. Green*, and Mr. E. S. Dodwell fifth with *Rose of Stapleford*. An immense number of blooms were exhibited in these classes, and the Judges must have had considerable difficulty in selecting the prize flowers.

PICOTEEES.—In Class E, for twenty-four blooms in not less than twelve varieties, five collections were staged. Mr. Douglas was first with admirably finished examples of *J. B. Bryant*, *Mary*, *Fanny Helen*, *Mrs. Douglas*, *Ethel*, *Mrs. Niven*, *Mrs. Bower*, *Edith D'Ombra*, *Prima Donna*, *Brunette*, *Miss Wood*, *Zerlina*, *Obadiah*, *Clara*, *Miss Lee*, *John Smith*, *William Summers*, and *Alliance*. Mr. Turner, Slough, was placed second with generally heavier flowers, but not quite so smooth and highly finished. The third prize was awarded to Mr. E. S. Dodwell with rather small but remarkably clean flowers; and the fourth to Mr. Jonathan Booth. Mrs. Fuller, heavy rose-edge, in this collection was remarkably fine. The fifth prize went to Mr. Henry Hooper, Bath.

In Class F, for twelve varieties dissimilar, eleven collections were staged. Mr. Douglas was again in the foremost place with *J. B. Bryant*, *Mary*, *Fanny Helen*, *Miss Wood*, *Zerlina*, *John Smith*, *Mrs. Douglas*, *Edith D'Ombra*, *Minnie*, *Thomas William*, *Brunette*, and *Mrs. Niven*. The grand bloom in this stand of *J. B. Bryant* was placed in the high position of the premier *Picotée* in the Show. The second prize went to Mr. E. S. Dodwell; third to Mr. R. Gorton, Eccles, Lancashire; fourth to Mr. George Rudd; fifth to Mr. S. Brown, Birmingham; and sixth to Mr. B. Simonite.

In Class G, for six blooms, Mr. Medhurst, Wandsworth, was awarded the first prize, and W. H. Dodwell, Esq., the second, both staging clear but rather small flowers.

In the single specimen classes the following prizes were awarded:—*Red Heavy-edged*.—Mr. Douglas was first and second with *John Smith*, and third and fifth with *Princess of Wales*, Mr. Turner being fourth with *Dr. Abercrombie*. *Red Light-edged*.—Mr. Rudd was first and fifth with *Thomas William*, and Mr. E. S. Dodwell was third with the same variety, Mr. Douglas being second and fourth with Mr. Simonite. *Purple Heavy-edged*.—First, Mr. C. Turner with *Mrs. Albert Chancellor* and second with *Zerlina*; third, Mr. E. S. Dodwell with the same variety; fourth, Mr. Douglas with *Mrs. Niven*; and fifth Mr. Buttrum with *Lavinia*. *Purple Light-edged*.—Mr. Douglas was first and fifth with *Mary*, and fourth with *Mrs. Douglas*; Mr. E. S. Dodwell was second with *Mary*, and Mr. Turner third with *Alice*. *Rose or Scarlet Heavy-edged*.—First Mr. C. Turner with *Mrs. Payne*, second Mr. E. S. Dodwell with *Juliana*, third Mr. G. Rudd with *Miss Horner*, and fourth with *Juliana*; fifth *Dr. Abercrombie* with *Lady Louisa*. *Rose or Scarlet Light-edged*.—First Mr. Turner with *Victoria*, second Mr. Douglas with *Miss Wood*, third Mr. Rudd with the same variety, fourth Mr. Hooper with *Lucy*, fifth *Dr. Abercrombie* with *Victoria*. *Yellow Grounds*.—First Mr. Turner with *Hon. Lady Mary Lascelles*, and second with *Prince of Orange*; third Mr. Douglas with the same variety, fourth Mr. Turner with *Alice Waite*, and fifth Mr. Turner with *Prince of Orange*.

In Class I, for twenty-four blooms of selfs, fancies, or yellow

grounds, first Mr. Douglas, second Mr. C. Turner, third Mr. Hooper, Bath, fourth Mr. B. Simonite, and fifth Mr. E. S. Dodwell. Mr. Douglas's flowers were not named, but many of them were wonderfully rich in colour. Mr. Turner's—a beautiful stand—contained Lady Rosebery, Géant des Batailles, Cremorne, Guernsey Belle, Imperial Purple, Fire Eater, King of Yellows, Albert Chancellor, Elysian Beauty, Unexpected, and Christine. In the class for twelve blooms, which brought out ten collections, Mr. Turner again won the chief position with a beautiful stand containing the following that were not represented in the preceding class—namely, Alice Waite, Sentinel, Prince of Orange, Princess Beatrice, and Rose of Denmark. Mr. Catley, Bath, was placed second; Mr. Hooper, Bath, third; and Dr. Abercrombie fourth.

In Class L, for twelve plants in pots not exceeding 8 inches in diameter, Mr. C. Turner was first with a wonderful collection exhibited in 7-inch pots, each plant carrying from ten to twenty fine blooms. All of the varieties were seedlings exhibited for the first time, buff grounds prevailing. First-class certificates were awarded to the Earl of Beaconsfield, reddish buff ground with heavy scarlet flake, a grand flower; to Ophir, clear sulphur, very chaste; to Henry Tait, sulphur ground heavily flaked with deep rose; Eleanor, pale buff faintly edged with rose; and Alice, clear deep sulphur flaked with scarlet. Mr. Turner had also similar awards for the following exhibited as cut blooms—Royal Visit, heavy rose edge, very stout broad petals; and for Mr. Payne, light rose edge, very smooth and clean. Mr. Douglas had the second prize for plants in pots with well-grown examples, containing fine blooms of varieties of established merit.

Mr. Thomas Ware, Tottenham, exhibited a collection of promising seedlings of yellow-ground and self Picotees. Sulphur King was very clear in colour: the flowers are small, but distinct and attractive. This variety and Lady Armitage were also exhibited in pots by Mr. Ware.

The Exhibition was in all respects highly satisfactory, and we trust it will give an impetus to the more extensive cultivation of these beautiful hardy flowers.

NATIONAL ROSE SOCIETY.

OUTLINE SUGGESTIONS AS TO JUDGING AT ROSE SHOWS.

THE following suggestions compiled from expressed opinions of leading rosarians were adopted and confirmed at a meeting of the General Committee of the Society held May 28th, 1878, and presided over by Mr. R. N. G. Baker.

JUDGES.—1, The judges shall, as far as possible, be three in number for all small shows and for all sections of large shows. 2, They shall be selected principally from successful exhibitors. 3, They shall have no manner of interest in the section in which they are judging. 4, They shall begin punctually at the hour appointed.

BOXES.—1, Roses must be judged as they are in the boxes at the time of inspection. No other consideration of any kind is admissible. 2, The boxes should be of the regulation size and shape and set out with moss, unless otherwise specified. Boxes of the regulation size are 4 inches high in front, and 1 foot 6 inches wide.

PRIZES.—1, No exhibitor may obtain more than one prize in the same class. 2, All Roses shown must have been cut from plants which have been the property of the exhibitor for not less than three months previously. 3, All Roses should be correctly named. 4, The showing of duplicates under the same name, still more under a different one, will disqualify the exhibitor. Judges are expected to look closely to this. 5, Judges have power to disqualify for any infringement of the rules on the schedule.

METHOD OF JUDGING.—1, First cast out all bad boxes. 2, Then compare the residue. 3, The following, when necessary, shall be the method of comparison:—*a*, One of the judges should count and designate the good blooms. *b*, The other two should stand by, and stop him when they do not agree. *c*, In every difference of opinion a majority shall decide. *d*, The result of such counting shall form the decision.

POINTS.—Where points are found necessary they shall be allotted as follows:—1, Three points shall be given for the best blooms, two for mediums, one for those not so good but not bad enough to cut out, and an extra point for a very superior bloom. 2, One point shall be taken off from the box for every case of decided badness. 3, Teas and Noisettes shall have no especial favour shown to them as such. 4, Where stands are equal in respect of blooms judges shall proceed to consider the general evenness, variety, arrangement, and setting-up, the boxes being placed side by side and in the same light for that purpose.

DEFINITIONS.—1, A bloom or truss shall be taken to mean a Rose, with or without buds and foliage, as cut from the tree. 2, A good Rose must have form, size, brightness, substance, foliage, and be at the time of judging in the most perfect phase of its possible beauty. 3, A bad Rose.—All blooms or trusses shall be considered bad that have faulty shape, confused centre, or faded colour, and which are either undersized or oversized to the extent

of coarseness or of overblooming. 4, Form shall imply petals abundant and of good substance, regularly and gracefully disposed within a circular symmetrical outline. 5, Brightness shall include freshness of colour, brilliancy, and purity.

NEWCASTLE FLOWER SHOW.

FOR a considerable time little was heard of the Botanical and Horticultural Society of Durham and Northumberland, which has had its head-quarters at Newcastle for more than half a century. During some years anterior to 1875 it was regarded as very local in its nature, and scarcely anything was done to expand its operations and to establish it on a firmer broader basis. By the efforts of a band of earnest able workers, headed by two Honorary Secretaries of remarkable administrative ability, the Society was raised from its former local obscurity, and in an almost incredibly short time was placed in its present commanding position. The progress the Society has made since the present Committee was appointed is something wonderful. Three years ago the number of subscribers was less than four hundred, now its members are four thousand and still increasing. It is evident, too, that the great majority of these take a real interest in the exhibitions, as also indeed do the inhabitants generally of the populous district of which Newcastle is the centre. Unless this were so there could be no such crowds as those which assemble at the shows that are periodically provided.

The Show, which was held in Leazes Park on the 18th and 19th inst., was more numerous attended than was any previous Exhibition, and the greatest satisfaction was generally expressed by the visitors as to the beauty and excellency of the display. In arrangement the Exhibition was unique, and its effect, viewed as a complete picture, was extremely picturesque. The collections were arranged in five tents, each 130 feet by 30. These tents were not isolated in such a manner as to break up the Exhibition, but were placed side by side so as to form one immense marquee. The arrangement will be understood by likening it to a series of large span-roofed plant houses being turned into one by the removal of the inner walls, and supporting the roofs on pillars. The pillars supporting the canvas were not rough and unsightly, as too often is the case, but were made to contribute to the effectiveness of the Exhibition. They were covered with calico, blue and white alternately, and just gave the colours that were wanted to set off the Show to advantage. Besides the great floral pavilion referred to a large circular tent was provided, the centre of which was wholly occupied by a very varied and valuable collection of plants arranged by Messrs. James Veitch & Son, Chelsea. Ferns in this attractive group, which occupied 200 square feet of space, were represented by *Nephrolepis pluma* and *N. davallioides* Youngii, *Niphobolus lingua corymbifera*, *Asplenium ferrugineum*, *Polypodium elegantissimum*, *Rhipidopteris peltata gracillima*, *Lomaria discolor bipinnatifida*, and *Adiantum Luddemannianum*; Orchids by *Anguloa uniflora superba*, *Spathoglottis Petri*, *Odontoglossum Alexandriae* and *Roezlii*, *Cypripedium barbatum longifolium* and *Parishii*, *Dendrochilum filiforme*, *Dendrobium thyrsiflorum*, *Masdevallia Davisii*, *M. Veitchianum*, and *Epidendrum vitellinum majus*. Amongst the Crotons we noticed *Mortii*, *Earl of Derby*, *Challenger*, *Nobilis*, and *Bismarck*. The collection also included *Nepenthes* and fine-foliaged plants in great variety, from stately *Alcasias* to such lowly gems as *Anacatholilus*, *Bertolonias*, &c. The group was brightened by excellent *Tuberous Begonias*, and the fine hardy variegated Grass *Eulalia japonica* showed to great advantage. Never, perhaps, was a collection of plants more closely examined and criticised than by the immense throngs who visited the Show. In the same tent, and in fine contrast to the central group, was a beautiful collection of *Coniferae* exhibited by Mr. Watson, Fenham Nurseries, Newcastle. They were small plants in splendid colour, and the following are quoted as admirable for balcony and other purposes of decoration:—*Cupressus Lawsoniana* and *C. nutkaensis*; *Thuja gigantea*, elegantissima, *semperaeurens*, and *orientalis variegata*; *Piceas nobilis*, *lasiocarpa*, and *Nordmanniana*; *Thujopsis dolabrata variegata* and *borealis*; *Taxus variegata* and *T. hybernica variegata*; *Retinosporas plumosa aurea*, *pisifera lutescens*, and *ericoides*.

Turning to the classes, which numbered seventy-three in the schedule, we found in many of them, especially those for Roses and cut flowers, excellent competition. There was also an extensive display of plants notwithstanding the lateness of the season for fresh flowering specimens, also some good fruit, but the display of this was limited.

PLANTS.—In the first and chief class for twenty plants, ten of them in bloom, staged for effect, only two collections were staged. The £25 prize and the Royal Horticultural Society's silver medal was won by Mr. Tudgey, gardener to J. F. G. Williams, Esq., Henwick Grange, Worcester, with very nearly the same plants that were successful at Preston. They were large, but not fresh, and we thought the Tree Ferns, Cycads, &c., would have looked better had they not been tilted so much, especially as the specimens were not exhibited on stages but on the level ground. The second prize of £15 was won by Mr. T. Wilson, gardener to Mrs. Fleming

Normanby Hall, Middlesborough, with a most creditable collection; indeed, had the plants been effectively arranged in three rows, the centre row of Palms, &c., elevated instead of being placed haphazard in two rows, it is a question if the prizes would not have been reversed. The flowering plants were much fresher than Mr. Tudgey's, notably the Allamandas, Aphelexis, Stephanotis, Ixoras, and Ericas. The foliage plants were very healthy but not large, and were certainly not exhibited to the best advantage, but as far as regards cultivation the plants reflected much credit on the exhibitor. Mr. Wilson also won the chief prizes in the classes for six plants in bloom and for six Ferns. The flowering plants comprised Dipladenias Brearleyana and amabilis, very fine; Clerodendron Balfourianum, Phænocoma prolifera, Tetratheca verticillata, and Dracophyllum gracile. The Ferns were Alsophila australis, Dicksonia antarctica, Cyatheas medullaris and dealbata, and a fine specimen of Lomaria gibba. The plants were remarkably fresh and healthy, and had a spread of fronds of about 5 feet in diameter. The remaining prizes were awarded to Mr. Battensby, a very successful amateur cultivator, and Mr. Methvin for flowering plants; and Mr. Storrie and Mr. Tudgey for Ferns in the order of their names. In the class for six fine-foliaged plants Mr. Methvin won the foremost place with good examples of *Cycas revoluta*, *Yucca aloifolia variegata*, *Cordyline indivisa Veitchii*, and a large *Euphorbia*. Mr. Battensby and Mr. Storrie were placed second and third respectively. *Ericas* were not good, and show *Pelargoniums*, for which good prizes were offered, had lost their freshness. In the last-named class the prizes were awarded to Mr. Adams, Swallow, for a creditable collection, the variety *Ruth* being very beautiful, Mr. Methvin and Mr. Haig respectively. Fancy *Pelargoniums* were also much faded, and *Zonals*, except the first-prize collection of Mr. R. Gardner, had a somewhat drawn appearance; they, however, contributed much to the brightness of the Show. The second and third prizes in the last-named class went to Mr. Alexander, jun., and Mr. Stockley. *Coleuses* were exhibited in considerable numbers. The plants were rather small, but were healthy and in good colour; Messrs. Sherwin, Stockley, and Oliphant were the successful exhibitors. Mr. Forsyth won the chief prize for six *Fuchsias* with well-grown and flowered pyramids not too closely trained. They were about 5 feet high and 3 feet in diameter at the base.

There was good competition in the classes for table plants. The Vice-President's prizes for six plants were won by Mr. Thompson, Mr. Wilson, and Mr. Whiting in the order named. Many of the plants exhibited were fully too large, and on that account, good though they were, they were passed in favour of smaller examples. The first-prize collection in this class consisted of *Areca aurea* and *crinata*, *Cordyline australis*, *Aralia Veitchii*, *Dracæna terminalis*, and *Pandanus Veitchii*, none of them exceeding a foot in height. The Society's prizes were won by Mr. Peter Sherwin, Mr. Kershaw, and Mr. Whiting, the plants in the first-prize collection being again smaller than the others. Besides the plants quoted, *Areca rubra*, *Dracæna gracilis*, *Dracæna Cooperii*, *Corypha australis*, and *Thrinax elegantissima*, and *Reidia glaucescens* were the best and most suitable plants in these classes.

Bedding plants were admirably exhibited in pans 12 inches in diameter by Mr. G. Stockley and Mr. W. Whiting, who were awarded the prizes in the order named. Mr. Stockley's were single plants, and of their kinds were almost faultless. They comprised *Pansies* Duke of Edinburgh, fine purple; and *Duchess of Edinburgh*, excellent white; *Belobelia* Lady Macdonald, yellow *Calceolarias*, scarlet *Geranium* Charley Casbon, dwarf *Tropæolum* Her Majesty, dwarf *Ageratum*, *Dactylis glomerata variegata*, *Mesembryanthemum*, *Centaurea*, and *Mentha*. Mr. Whiting's pans were made up with several plants and were extremely neat, especially *Nertera depressa*, *edum azoideum variegatum*, and *Coleus pictus*. Alpine, rock, and succulent plants were also well exhibited. The prizes for twenty plants were awarded to Mr. Larke and Mr. Brogden.

Classes for plants were provided for amateurs, which at this Show means those who are engaged in industrial pursuits and who grow plants as a hobby or mode of recreation. Very great credit is due to such exhibitors as Messrs. Oliver, Battensby, Deighton, and Gardner for the well-grown specimens they exhibited. The collections included such stove plants as *Allamandas*, *Alocasias*, *Crotons*, *Palms*, including *Cocos Weddelliana*; and of greenhouse plants *Phænocomas*, *Rhynchospermums*, and *Staticeas*, many of which would have done credit to professional gardeners. In the class for fine-foliaged plants equal first prizes were awarded to Mr. Deighton and Mr. Battensby; the chief prize for flowering specimens being won by Mr. Oliver. *Petunias* were rather largely exhibited in this section of the Show. A single striped variety, *Lady James*, was exhibited by every competitor. It is a local variety of considerable merit, and is evidently a great favourite in the district. There was also good competition in the class for double *Petunias*, also for *Fuchsias*, *Geraniums*, and *Ferns*, the latter especially being remarkably well exhibited; but *Roses* in pots were generally poor, the hot weather having proved too much for them.

CUT FLOWERS AND TABLE DECORATIONS.—Foremost in this section were the *Roses*, which formed perhaps the best feature of

the Show; at any rate nothing in the Exhibition attracted more general admiration. In the open class for forty-eight *Roses* in not less than twenty-four varieties Messrs. Cranston & Co. won first honours with blooms that we have rarely if ever seen equalled at so late a period of the year. They were remarkably rich in colour, massive, and symmetrical. Mr. Prince and Messrs. G. Paul & Son had the remaining prizes in this class, both staging excellent stands. Messrs. Cranston & Co. were also in the foremost position for twenty-four *Roses*, followed by Messrs. G. Paul and Son and Mr. Davison. The first prize for twelve yellow *Roses* was won by Messrs. Robert Mack & Son, successors of the late Mr. John Harrison, North of England Rose Nurseries, Catterick Bridge, Yorkshire. For twelve Tea-scented *Roses* Mr. Prince was first with fresh blooms of *Catherine Mermet*, *Margelin Rhoda*, *Souvenir d'Elise*, *Amazon*, *Mons. Furtado*, *Homère*, *Souvenir d'un Ami*, *Perle des Jardins*, *Le Nankin*, *Triomphe de Rennes*, *Souvenir de Madame Pernet*, and *Madame Willermoz*. Messrs. Mack & Son were placed second, and Mr. Davison third. In the class for twelve *Roses* of any variety Messrs. Cranston & Co. were placed first for magnificent blooms of *Alfred Colomb*; Mr. Davison second with the same variety, which has not before been staged in such fine condition this year; and Mr. Prince third with *Marie Baumann* very fine.

In the amateurs' classes Mr. E. R. Whitwell won the chief prize in the class for twenty-four blooms; they were very fine, and were displayed on the velvet-covered stand for which a first prize was granted at the National Rose Show recently held at the Crystal Palace. Mr. Burrell was placed second also with fine blooms, and Mr. Mayo third, an extra prize being granted to Mr. C. Laws. For twelve *Roses* the prizes went to Mr. Laws, Mr. Whitwell, Mr. Sanderson, and Mr. Noble in the order of their names; and for Tea *Roses* to Mr. McMillan, Mr. Mayo, and Mr. Kershaw.

Pinks were wonderfully well exhibited by the leading Northumberland florists, who evidently bestow great attention on these beautiful flowers. The prizes were won by Messrs. Harland, R. Scott, and Jeavons. Of hardy herbaceous flowers there was a great display—quite the best we have seen at any exhibition this year. Nine fine stands of twenty-four varieties of hardy border flowers were exhibited, and the prizes were awarded as follows: Mr. W. H. Wilson first, Mr. C. Wass second, Mr. Spoor, jun., third, Mr. Larke and Mr. Gardner receiving extras. Represented in these boxes were imposing bunches of *Schizanthuses*, *Pinks*, *Delphiniums*, *Liliums*, *Lychnises*, *Veronicas*, *Staticeas*, *Campanulas*, *Antirrhinums*, *Pyrethrums*, *Irises*, *Phloxes*, *Achilleas*, *Thalictrums*, *Lathyruses*, *Pentstemons*, &c. It was quite cheering to see these good old flowers so well grown and cherished.

For the most tastefully arranged table with flowers, plants, and fruit the first prize was awarded to Mr. Thompson, the second to Messrs. Gellender & Sons, and the third to Mr. Methvin. The tables were generally overcrowded, and except the first-prize table too many bright-coloured flowers were employed. The same remarks apply to the epergnes, where the prizes went to those most lightly and elegantly arranged. Baskets of flowers and bouquets were very numerous, but only a few of them possessed merit. The flowers were mostly too closely packed, which imparted a heavy appearance to the arrangements. Messrs. Thompson, Jones, Ison, and Ramshaw were the chief prizewinners in this section of the Show.

FRUIT.—By far the finest fruit was staged by Mr. Jowsey, gardener to G. Gilpin Brown, Esq., Ledbury Park, who won the first prize and Royal Horticultural Society's medal for a collection of six dishes with a good Pine, excellent and highly finished Black Hamburg and Foster's Seedling Grapes, good Peaches and Nectarines, and a small Melon. It was a smart, clean, and highly creditable collection. Mr. Service had the second prize. The same exhibitors held similar positions in the class for four dishes, Mr. Jowsey being again far in advance. Mr. Brown, gardener to Edward Joicey, Esq., Whinney House, Gateshead, won the first prize in the Pine class with a medium-sized well-ripened fruit; and Mr. Jowsey easily won chief honours in the class for four varieties of Grapes with Venn's Muscat, splendid; Buckland Sweetwater, well finished; Black Hamburg, fine; and good Muscats. Mr. Marvin had the first prize for two bunches of white Grapes, and Mr. Aitken won in the black Grape class. Melons were only moderate, Peaches good but not well coloured. Nectarines small and Cherries poor. A very large number of Cucumbers were staged, but all of them were too large and too old to be regarded as superior. A curious brace of twin Cucumbers were exhibited by Rev. R. F. Wheeler, Whitty.

We must not omit notice of a magnificent bunch of Venn's Muscat Grape, for which Mr. Jowsey was awarded an extra prize. It was probably the finest bunch of the variety that has yet been exhibited. It weighed about 3 lbs., and as regards shape of bunch and size, colour and regularity of berries, was about faultless. An extra prize of £3 was deservedly awarded to Mr. Witherspoon, Chester-le-Street, for a collection of fruit trees in tubs, consisting of Peaches, Nectarines, Early Harvest Apple, Mulberry, and Vines, the latter being in pots. All were bearing excellent crops, and the foliage was remarkably healthy and clean.

Amongst miscellaneous exhibits we observed boxes of Roses and cut spikes of Lilioms, Delphiniums, &c., from Messrs. Stuart and Mein, Kelso; weeping Wellingtonias from Messrs. Little and Ballantyne, Carlisle; fine Agaves from Mr. Alexander, jun., Hexham; a heating apparatus at work from Messrs. Dinning & Cook, Newcastle, the boiler being entirely above ground and the circulation excellent; and useful and economical garden structures from Mr. John Bowman.

After the judging was completed an excellent luncheon was provided. The Mayor of Newcastle occupied the chair, and was supported by the High Sheriff of Northumberland, the Sheriff of Newcastle, the Mayor of Yarrow, the Vicar of Newcastle, the ex-Lord Mayor of York, and other gentlemen who take an interest in the Society's welfare. Col. Joicey, the President, was unable to attend, but he sent excellent fruit for the dessert. The speeches were refreshingly horticultural in tone, and the Show was in all respects a great success. The second day was declared a holiday by the Mayor, the principal tradesmen obeying his mandate by closing their shops. The weather was brilliant, and vast crowds filled the tents to overflowing. By the exertions of Messrs. Taylor and French, the Hon. Secretaries, a hard-working Executive Committee, and an industrious Acting Secretary, Mr. Gillespie, the arrangements were rendered complete, and all who aided at the Show had extended to them the utmost courtesy.

NOTES AND GLEANINGS.

THE Council of the Royal Horticultural Society have fixed the MEETINGS OF THE SOCIETY for 1879 as follow:—January 14th, February 11th, March 11th and 25th, April 8th and 22nd, May 13th and 27th, June 10th and 24th, July 8th and 22nd, August 12th and 26th, September 16th, October 14th, November 18th, December 16th. The Great Summer Show will be held on the 27th, 28th, 29th, and 30th of May. The Rose Show and the Show of the Pelargonium Society on June 24th.

— A GARDENER who has recently visited Glamis Castle informs us that some of the finest bunches of the DUKE OF BUCLEUCH GRAPE that have ever been produced are fast advancing to maturity in the vineries there. They are large, handsome, full, well-shouldered bunches that even Mr. Johnston may be proud of. This Grape does not spot to any extent at Glamis, but it gives some trouble by the berries cracking.

— THE weather in the north of England has for some time past been extremely hot and dry, and rain is much more urgently needed than in the metropolitan district. When visiting the gardens at Lambton Castle, Durham, on the 19th inst. we found the ground cracking extensively and the crops languishing. No rain had fallen since the flower-garden plants were bedded out. The thermometer in the shade was 84°. In Lincolnshire we found it still hotter and drier. The crops there are shrivelling up, and Apples are falling from the trees until they cover the ground. On several days the thermometer in the shade has exceeded 90°; and on the 21st inst. a corrected thermometer in the Hon. A. Leslie Melville's garden at Brans-ton registered the extraordinary heat of 94° in the shade and 120° in the sun. Not a drop of rain has fallen since June 17th, and then only a slight shower.

— THE ORCHARD HOUSES AT SAWBRIDGEWORTH are now well worthy of a visit, and those interested in the culture of fruit under glass will derive both pleasure and profitable instruction by a visit to this renowned establishment. The forced Peaches and Nectarines are now nearly past, and those under cool treatment are beginning to ripen. The Cherry house is in perfection, and is of itself a study to those who care to make themselves acquainted with the finest varieties of this delicious fruit.

— THE Vegetable Marrows and Tomatoes in the Fulham market grounds, which were threatened by the continuation of rain in June, are now recovering, and hopes are entertained of a good crop; but French Beans are an utter failure in many instances, the rain caused the seed to decay, and what few plants struggled to the surface the slugs destroyed. Onions are a failure in many places also.

— THE beds of ANNUALS on Messrs. Sutton & Sons' seed grounds at Reading, seen from the Great Western Railway, look remarkably bright and attractive. The strains of Asters, Stocks, Marigolds, &c., appear to be very good, and there are some beds of Nasturtiums which look wonderfully bright. The latter being very dwarf and compact ought to be an excellent substitute for Geraniums where scarce, and are also very useful where variety of bedding plants is required. They succeed remarkably well on a poor soil, and remain in bloom a considerable period, very hot and dry weather evi-

dently suiting them. They belong to the Tom Thumb section and can be had of the following colours: salmon and maroon, Crystal Palace Gem; scarlet, King of Tom Thumbs; crimson, black, King Theodore; creamy-white, Pearl; spotted, rose, and bluish-rose, *Cærulea rosea*.

— THE Royal Water Lily, *VICTORIA REGIA*, in the aquatic house in the Royal Botanic Society's Garden, Regent's Park, is this year unusually luxuriant. From a small seed sown in January a plant is produced of gigantic proportions, the six grand leaves almost covering the surface of the large tank. In a short time this fine plant will produce flowers, and will be an object of considerable attraction. Other aquatics in the same house are in a most satisfactory condition.

— MR. NUNNS of the Victoria Nursery, Beckenham, who contributed a very effective group of Palms, Crotons, Ficuses, Ferns, and other decorative plants at the Beckenham Exhibition on Saturday, a year or two since held the charge of the extensive gardens of Beckenham Place, where the recent show was held. Since Mr. Nunn's removal from these gardens he has built himself several substantial light and useful glass houses 60 feet long, in which he grows almost every requisite for decorative display. In the first house we visited the roof was covered with *Stephanotis floribunda*, which was blooming profusely at Easter and on which at the present time are a quantity of its waxy white trusses. Underneath are plants of *Eucharis amazonica* plentifully in flower. A second house was well filled with *Petunias*, *Fuchsias*, double and single *Geraniums*, *Carnations*, and other flowering plants. In a third we observed an extensive batch of the double Ivy-leaf *Geranium* *König Albert*, which Mr. Nunn considers one of the best Ivy-leaves for vases and baskets. Another house was partially devoted to Cucumbers, the fruit of which was hanging in plenty. We also observed large batches of healthy *Epiphyllums*, young *Fuchsias*, especially the distinct and decorative variety *Earl of Beaconsfield*, and immense quantities of *Adiantums* *Capillus-Veneris*, *cuneatum*, and *gracillimum*.

— THE OAKS in many parts of the country, and notably so in Shropshire, present a rather unusual appearance from the fact that they are making a second growth. This is very noticeable in low-lying moist situations. The young growth has completely changed the appearance of the trees, the colour now being a mixture of light and the usual dark green. The ELMS and other trees are also making a second growth, but not in such a marked degree as with the Oaks. It will be interesting to note the tinges assumed by the old and young growth when changing in the autumn.

— AMERICAN cultivators appear to be using PARIS GREEN, which they found a specific against the Potato beetle, for the destruction of other insects on plants and trees. In applying the insecticide some prefer to mix the green with water, others with flour or plaster. Either is quite effectual. In the one case a watering-pot that will hold a pail of water, in the other a sieve of some kind is needed. Any tin vessel with holes punched in the bottom will serve. A flour-sieve with a covering of muslin or paper tied about it answers well enough. To twenty parts of cheap flour or plaster add one part of green and mix thoroughly. Sift this upon the leaves before sunrise while they are filmed with dew. It is labour and material lost to wait until the dew has been in part or wholly evaporated, since there is nothing to hold the dry powder and the first breeze blows it away. Or a heaping tablespoonful of Paris green may be stirred into a pailful of water and applied with a syringe or brush, stirring it the while, as the green is not soluble in water.

— THROUGHOUT France GARDENING IS PRACTICALLY TAUGHT in the primary and elementary schools. There are at present 28,000 of these schools, each of which has a garden attached to it, and is under the care of a master capable of imparting a knowledge of the first principles of horticulture.

— AS an illustration of GERMAN FRUIT CULTURE as a profitable industry, and also as furnishing an illustration of the beneficial results that arise from small proprietorships, the little village of Werder, near Potsdam in Germany, celebrated for the quality of its fruit, is, says the *American Cultivator*, a striking example. The population of this parish is only about 3000, and its area is 2300 acres, whereof 975 acres are devoted to fruit culture. The natural soil in most places is very poor, and has only been brought to its present fertile condition by the indomitable thrift and perseverance of its owners. These 975 acres are distributed among some 550 owners, so that each cultivator has, on an average, about 1½ acre of land. The

total value of the fruit crops of Werder varies, of course, according to the season. In 1875 something like 2,500,000 gallons of fruit were marketed at Berlin.

ANGULOA CLOWESII.

THE subject of our present illustration belongs to a small genus of terrestrial Orchids from the forests of tropical America, but in regions of considerable elevation. The species

are for the most part strong growers, and do not as a rule retain their leaves more than two years, but as they make fresh leaves every season there is no lack of foliage on well-grown plants. They make bold, much-plaited, dark green leaves, and produce their flowers upon short stems, which proceed from the base of the young growths, beginning to show themselves very soon after growth commences. The flowers are mostly solitary, Tulip-like, and curiously scented. In the species figured the colour is a rich deep golden yellow. They have a



Fig. 10.—ANGULOA CLOWESII.

curious moving lip, which the ladies say has an exact resemblance to a baby lying in a cradle, and as they are supposed to be the best judges of such matters it would ill become us to contradict such authority.

In the matter of cultivation Anguloas are very accommodating; they love good drainage and an abundant supply of water. Pot them firmly in rough fibrous peat and place them in the cool house, and if in a somewhat dark corner so much the better. After growth is finished very little water will suffice to keep the plants in health.

The engraving (fig. 10) is from a photograph of the magnificent plant belonging to O. O. Wrigley, Esq., Bridge Hall, Bury, to which the Veitch memorial medal was awarded at the Manchester Show. The foliage of this remarkably fine

plant when seen at Manchester was 2 feet long, 6 inches broad, and had a spread of nearly 4 feet. The number of flowers expanded was forty-four, all of large size and rich colour. The plant was grown by Mr. Hubbersty, Mr. Wrigley's skilful gardener.

CLEMATISES—SUTTONS' DARK RED BEET.

CLEMATISES are favourite flowers in the well-kept garden of the Rev. C. P. Peters, Pitchford, Salop. They are trained in various ways, and will soon present a fine appearance festooned at the back of an extremely well-managed flower garden. The prettiest effect, however, is obtained by allowing plants of *C. Jackmanii* and *C. rubro-vioacea* to ramble at their will

over some specimens of *Acer Negundo variegata*. The rich colours of the Clematises contrast admirably with the beautifully variegated *Acer*, and neither loses anything from the fact of being among herbaceous plants and highly-coloured annuals. Other favourite Clematises here are Lord Londesborough, Lady Londesborough, Lord Napier, Miss Bateman, Prince of Wales, and *lanuginosa candida*.

A favourite bedding plant in the above garden with both the reverend owner and his gardener, Mr. Morris, is Suttons' Dark Red Beet, and it certainly deserves much praise. The colour is brighter, deeper, and quite superior to any of its rivals, such as *Iresine*, *Coleus*, &c., and the plants are much more easy to cultivate. The treatment given, and which greatly contributes to success, is as follows:—The seed is sown in June (later will do) in some spare plot; the plants are thinned out slightly, some being transplanted if required when large enough to handle, and are left till required for putting out with the winter bedding plants. Care is taken to plant as much as possible in a position to be left for working-in with the bedding plants the following summer, using the Beet in lines, circles, &c. In summer the flowering shoots are kept well but not closely pinched back, and the result is the gradual merging of the vegetable into an extremely compact and pleasing bedding plant. This plan has been tried for four consecutive seasons with unfailing success. The only objection ever offered to Beet as a bedding plant is the fact of its being "so common;" but when treated as above, one, on first seeing it, asks, "Is it a Beet?" and if therefore given its botanical name, *Beta vulgaris*, Suttonii it would have the effect of mystifying those who sometimes offer frivolous objections to the use of simply grown plants. Other varieties of Beet doubtless can be similarly grown, but Sutton's is the favourite at Pitchford rectory.—W. IGGULDEN, *Orsett Hall*.

BECKENHAM AND ALEXANDRA HORTICULTURAL SOCIETY.—JULY 20TH.

IN visiting suburban horticultural exhibitions we very rarely find any but that are considerably enhanced in beauty by choice groups of new and rare plants lent by our leading nurserymen. This was not the case with the Beckenham Show, for with the exception of some boxes of cut flowers from Mr. Cannell, Swanley, and some decorative plants sent by Mr. Nunn, Victoria Nursery, Beckenham, the productions exhibited were in competition. The schedule provided seventy-one classes, forty-six of which were appropriated to cottagers. The cottagers' productions were far above the average quality, and the classes were so spiritedly contested that when Sir Charles Mills, M.P., awarded the prizes the same evening several of the successful exhibitors received from eighteen to twenty prizes, and amongst these were Messrs. Leach, Horlock, Sales, and Morrison. Some very pretty miniature model gardens were exhibited by Mr. Dace, 47, Albert Road, Penge, and Mr. Morrison, who were placed first and second respectively, and Messrs. Rogers and Greenfield equal thirds. Both cut flowers and the general appearance of the window plants and other productions spoke of the great care which had been bestowed upon them by the exhibitors.

In the gardeners' exhibits there was room for improvement, which very possibly we shall see at the next annual Show, for with many it was their first attempt at exhibiting. Mr. Ridgewell, gardener to F. R. Glover, Esq., Chestnuts, Beckenham, received the first prize for six fine-foliage plants, Mr. E. Brabon, gardener to F. P. Alliston, Esq., The Ferns, being placed second, and Mr. Harpin, gardener to J. E. Ratcliffe, Esq., Broomhill, third. Messrs. Ridgewell, Harpin, and Brabon were also first, second, and third respectively for six stove plants; and for six flowering plants Mr. G. Westcott, gardener to Mrs. Crane, Westgate, received the first prize for fairly bloomed plants of *Allamanda Schottii*, *Oncidium crispum*, *Begonia weltoniensis*, a *Vinca*, *Hydrangea*, and *Agapanthus*. Some small but very neat exotic Ferns were exhibited by Mr. Harpin and Mr. Brabon, who were placed in the order of their names, and Mr. Brabon received an extra prize for six well-flowered Tuberous Begonias, which were very effective. Mr. Harpin's Zonal Geraniums were very good, and received the first prize.

Vegetables came from Mr. Poffley, gardener to A. McKinlay, Esq., Mr. E. Brabon, and Mr. J. Brabon, who were first, second, and third respectively, and the Messrs. Brabons with Mr. Harpin shared the fruit prizes.

Mr. Cannell's cut blooms of both double and single Pelargoniums, the highly attractive *P. echinatum*, *Verbenas*, and the White, Striped, and Salmon *Vesuvius* commanded much attention from the numerous visitors, which always abound when an exhibition can be held on a Saturday afternoon. The Show was held in a well-wooded park belonging to Spencer Burton, Esq.

The Committee, of which Mr. McKinlay (of Potato renown) is

the energetic Hon. Sec., are to be congratulated on their success, for if it is well to improve the Pines, Grapes, and Orchids of the rich it is surely well to improve the cottage gardens of the industrial classes.

REPORT ON FILBERTS

Grown in the Royal Horticultural Society's Garden, Chiswick.

By A. F. BARRON.

POPULARLY they are pretty correctly classed as follows:—

1. **FILBERTS.**—Varieties of oblong shape like that of the finger nails, and generally remaining in the husks: Bond, Barr's Espagnole, Barcelone de Loddiges, Cosford, A Grappes, A Grappes précoce, Frizzled, Lambert's Hartington Prolific, Lichtenstein's Zellernuss, Siegel's Zellernuss, Red Filbert, White Filbert.

2. **COBS.**—Varieties of short broad shape like that of the thumbnail, rather large, and with thick shells; generally falling freely from the husk: Atlas, Burchardt's, Merveille de Bolwiller, Wiesmann's Zellernuss.

3. **NUTS.**—All the smaller varieties without husks: Aveline de Provence, *Corylus arborescens*, *C. laciniatus*, à Fruits striées, Small Cluster, St. Grisier.

Atlas.—*Syns.*, Downtown, *Corylus algeriensis*.—Husk hairy, about equal in length to the nut, generally divided into two parts, deeply toothed, and pressing closely to the nut, of a dark brown colour. Nut large, broad, angular, with a broad irregular base, parting freely from the husks when ripe; shell dark brown, very thick and hard; kernel large, full, and of excellent quality. Plant of strong growth, fruits freely; ripe midseason. A splendid Nut of the Cob class.

Aveline de Provence.—Husk hairy, a little longer than the nut, light-coloured, sharply but not deeply toothed. Nut short, pointed, with a rather broad base, of a light grey colour, and parting freely from the husk when ripe; shell very thick and hard; kernel full. Plant of moderate growth, a great cropper, but late in ripening. This appears to be the same as the light-coloured variety of the Barcelona Nuts of commerce.

Aveline Rouge.—See Red Filbert.

Barcelona Blanc.—See White Filbert.

Barcelone de Loddiges.—Husk very large, full, covered with short hairs, twice the length of the nut, which in some cases it completely covers, sharply serrated, light-coloured. Nut of medium size, being almost hidden in the large husk, angular, bluntly pointed at both ends, dark-coloured; shell very thick, hard; kernel full; grows in clusters of five or six. Plant of very robust growth, with large dark green leaves; a moderate cropper; fruit ripens early. Very distinct but too small.

Barr's Espagnole.—Husk downy, short, about two-thirds the length of the nut, which it presses closely, deeply and irregularly toothed, of a dull grey colour. Nut much exposed, short, having a broad base, and tapering very nearly to the apex; shell downy, but very hard, of a dull grey colour; grows in clusters of from four to six. Plant of medium growth; moderate cropper; ripens late.

Burr or Barn.—Not fruited.

Bizarre.—Not fruited.

Bond.—Husk downy, about one-third longer than the nut, very deeply toothed, the segments very long and narrow. Nut exposed, medium size, ovate, light-coloured, very soft and downy; shell soft, may be pierced with the thumbnail; kernel small; grows in clusters of from four to six. Plant of slender growth; midseason; prolific; does not keep well.

Cape Nut.—See Frizzled Filbert.

Burchardt's.—Husk downy, a little longer than the nut, deeply toothed, dark-coloured. Nut medium-sized, very broad, the breadth exceeding the height, angular, or nearly square, with a broad flat base, light-coloured; shell thick; kernel very large full, of excellent flavour. Plant of moderate growth; late-growing; fruit ripens early.

Corylus laciniatus.—Husk very small, lacinated to the very base, and much reflexed. Nut quite exposed, small, short, somewhat flattened, but of even regular form, of a pale grey colour; shell very thick and hard; grows in clusters of from three to five. Plant of slender growth; leaves deeply cut or lacinated; fruits freely. This appears to be merely a cultivated variety of the ordinary Hazel (*Corylus avellana*). Ornamental.

C. algeriensis.—See Atlas.

C. arborescens.—Husk small, downy, about the same length as the nut, lacinated to nearly the base; the segments long, linear, and reflexed. Nut small, does not part freely from the husk, flattened and broadly pointed, light-coloured; shell

very thick and hard; kernel full. Grows in clusters of five or six. Plant of moderate growth. A worthless variety.

Cosford.—*Syns.*, Miss Young's, Thin-shelled.—Husk downy, about equal in length to the nut, very close fitting, toothed, light-coloured. Nut large, oblong, rounded, remaining in the husk, of a warm light colour; shell very thin, may be easily broken between the thumb and fingers; kernel large, full, of excellent quality; grows in clusters of from three to five. Plant of moderate growth; leaves pale green; fruits freely; ripe midseason. One of the finest Filberts in cultivation.

Downton.—See Atlas.

Downton Large Square.—See Atlas.

Franche rouge.—See Red Filbert.

Frizzled.—*Syn.*, Cape Nut.—Husk large, downy, somewhat exceeding the length of the nut, pale or dull coloured, deeply laciniated or toothed, and reflexed to one-half its length, giving it a frizzled or frizzled appearance, and thus exposing the nut. Nut oblong, from 1 to 1½ inch, somewhat flattened and broadly pointed; shell pale, thick; kernel large, full, of fine flavour; grows in clusters of four or five. Plant of moderate growth; free fruiting; late in ripening. A very pretty and distinct variety.

A Fruits striées.—Husk downy, longer than nut, deeply toothed or laciniated, and opening away or reflexing, thus exposing the nut when ripening. Nut small, long, and narrow, with a flat point; base irregular, pointed, lightly coloured; shell thin, hard; grows in clusters of three to six. Plant moderately robust, grows late; free-fruiting; ripens early. A very pretty nut but too small.

A Grappes.—Husk hairy, about the same length as the nut, in two parts, which spread out from the nut as it approaches ripeness, sharply serrated. Nut quite exposed, small, long, flattened, spoon-shaped, light-coloured; shell thick and hard; kernel full; grows in clusters of from five to eight. Strong grower; ripens late.

A Grappes précoce.—Husk large, very downy, about the same length as the nut, very deeply toothed and partly reflexed. Nut small, long, narrow, and gradually flattened towards the apex like a wedge; shell downy, pale grey, thin; grows in clusters of from six to eight. Plant of slender growth; prolific; early.

Grosse précoce de Frauendorf.—See Red Filbert.

Grosse ronde de Piedmont.—See White Filbert.

A Gros Fruits Noir.—Husk very dark-coloured, hairy, nearly as long as the nut, in two divisions, fitting very close to the nut, thereby giving it a bare appearance. Nut of medium size, long, the base narrow, widening to the apex, dark or dull coloured; shell very thick; kernel small. A moderate grower; prolific. Does not ripen well.

Hartington Prolific.—Husk hairy, one-third longer than nut, the extending portion deeply laciniated and reflexed. Nut small, long, narrow, and pointed at both ends, irregular, light-coloured; shell thin; kernel full, fine flavour; grows in clusters of six or seven. Plant of moderate growth; very prolific and very early. The earliest nut to ripen, but too small.

Jeeves' Seedling.—See Siegel's Zellernuss.

Kentish Cob.—See Lambert's Filbert.

Knight's Small.—See White Filbert.

Lambert's Filbert.—*Syns.*, Kentish Cob, Filbert Cob, Spanische Nut.—Husk downy, large, about one-third longer than the nut, close-fitting, and over the apex, of which it is occasionally contracted so as to enclose the nut, very slightly toothed, dull-coloured. Nut large, remaining in the husk, oblong, pointed, somewhat furrowed and irregular, of a dull grey colour; shell thick; kernel full; grows in clusters of five or six. Plant of medium growth, a very great and certain cropper; fruit ripens midseason. One of the very best Filberts in cultivation. Very largely grown in Kent under the name of Kentish Cob.

Lichtenstein's Zellernuss.—Husk downy, large, a little longer than the nut, bluntly toothed, the segments slightly reflexed. Nut medium size, long, pointed at both ends, of irregular angular shape, and nearly closed in by the husk, of a dull grey colour; shell very hard; grows in small clusters. Plant of strong late growth; ripens late.

Miss Young's.—See Cosford.

Merveille de Bolwiller.—Husk downy, about one-third longer than the nut, in two divisions, deeply and irregularly toothed, and pressing closely to the nut. Nut large, rounded at base, very broad, the breadth nearly equal to the height,

tapering to a broad point, very regular and uniform, light-coloured; shell thick; kernel large, fine flavour. Plant of strong growth, grows late; prolific; fruit ripens midseason. A very handsome and excellent variety.

Purple-leaved.—This is merely a purple-leaved variety of the Red Filbert. A very ornamental plant.

Red Filbert.—*Syns.*, Aveline rouge, Franche rouge, Rouge d'Algers, Grosse précoce de Frauendorf.—Husk downy, of a reddish-brown colour, nearly twice the length of the nut, round the apex of which it is contracted, thereby enclosing the nut. Nut remaining in the husk, small, long, and pointed at both ends; shell thin but hard; kernel very full, having a red skin, finely flavoured. Plant of slender growth; very free-fruiting; ripe midseason. A very excellent variety.

Rouge d'Algers.—See Red Filbert.

Small Cluster.—Husk small, hairy, deeply divided into two parts, of about the same length as the nut, toothed, and pressing closely to the nut. Nut small, short, with a broad pointed base, light-coloured; shell thin but hard; kernel full; grows in clusters of from eight to ten; slender-growing; prolific, but too small. Worthless.

Siegel's Zellernuss.—*Syns.*, Sickler's Zellernuss, Jeeves' Seedling.—Husk downy, short, extending to three-quarters the length of the nut, very deeply toothed and reflexed, the nut thereby being almost entirely exposed. Nut large, oblong, with a broad rounded base, becoming flattened towards the apex, light-coloured; shell thin; kernel large, full; grows in small clusters. Moderate grower; ripe midseason.

Spanish Nut.—See Lambert's.

St. Grisier.—Husk downy, or having only short hairs, a little longer than the nut, which it presses closely, sharply toothed. Nut of medium size, short, roundish, with a broad base, of a dark brown or reddish colour; shell thick but easily broken; kernel large, full, of excellent flavour; grows in clusters of three to six. Plant of slender growth; very prolific; ripens early. This appears to be the same as the reddish-coloured Barcelona Nut of commerce; perhaps the finest flavoured of all Nuts.

Weismann's Zellernuss.—This is very similar to Merveille de Bolwiller, but larger.

White Filbert.—*Syns.*, Knight's Small, Barcelone Blanc, Grosse ronde de Piedmont.—Husk hairy, light-coloured, nearly twice the length of the nut, round the apex of which it is contracted, thereby enclosing it; it frequently bursts a little on one side, whereby the nut is exposed. Nut long, small, remaining in the husk, pointed at both ends; shell thin, very firm; kernel large, full, of fine quality; grows in clusters of from five to eight. Plant of slender growth; a very heavy and certain cropper; fruit ripens midseason. A very excellent and useful variety.

LIST OF SELECT NUTS FOR GENERAL CULTIVATION.—Atlas, Cosford, Lambert's Merveille de Bolwiller, Siegel's Zellernuss, White Filbert.—(*Journal of the Royal Horticultural Society.*)

DOUBLE AZALEAS FOR CUT FLOWERS, &c.

As a rule, double or semi-double flowers last longer in a fresh condition, either when the flowers are left on the plant or when cut, than do single flowers of the same species. This is very strikingly exemplified in Azaleas; and though it cannot perhaps be said that double Azaleas are more beautiful or generally effective than single ones, neither can it be said that they are less so. The doubles very far surpass the singles in the length of time they remain in bloom, as well as for their endurance when cut for bouquets and vases. On this account the culture of a fair proportion of them is very desirable both as decorative plants and for affording sprays of bloom for mixing with other flowers in vases, and for "wiring" in single blooms for bouquets. Indeed very few plants excel them for these purposes, especially when it is considered that their flowering period can be extended from October to June, and that the colour of their flowers ranges from the purest white to nearly crimson. The whites are especially useful for bouquets, from the fact that some of them, such as Maria Waterougal, are small.

To all who have a supply of flowering plants and cut flowers to keep up in the autumn and winter months, as well as early spring, double Azaleas are most useful. The length of time they remain in bloom is remarkable. On the 3rd of April we had a plant of the semi-double and charming Souvenir de Prince Albert in bloom that has outlasted several sets of single varieties growing in the same house. The same may be said

of the following selection, which can be strongly recommended for the qualities and purposes we have referred to:—

A. Borsig.—Pure white; medium size. Can be had in bloom by the end of October.

Charles Leirens.—Very dark salmon, with crimson blotch on upper petals. Blooms in October.

Flag of Truce.—Splendid, large, pure white; vigorous habit. Excellent for February and March.

Imbricata.—As double as a Balsam; said to be the finest of its class. We can only speak of a small plant that bloomed in February—appeared not so pure a white as it has been described.

Maria Waterougal.—Pure white, flowers small and neat, and valuable for bouquets. Can be flowered in winter.

Narcissiflora.—White, and the earliest of all the double varieties. Can be bloomed easily in October.

Souvenir de Prince Albert.—In every respect a charming variety, and can be flowered in winter. A beautiful rosy peach, broadly margined with white. Lasts a very long time in bloom.

These varieties are well worthy of special culture for winter and early spring decoration; and for cutting at a season when white flowers are scarce the whites are invaluable.

At no other season are Azaleas more enjoyable than in winter and early spring, when they last longer in bloom than later in the season. By growing a few of President Van der Hecke, a single variety, and *Narcissiflora*, to come into bloom early in October, there is no great difficulty in prolonging the Azalea season to eight months of the year. Of course for this purpose it requires that a growth should be forced on different sets of plants in succession, so as to be easily got into bloom at their respective seasons.—D. T. (in *The Gardener*).

BOXWOOD.

FOR some years past the supply of this important wood has diminished in quantity and risen in price. It is derived from the forests of the Caucasus, Armenia, and the Caspian shores. The wood of best quality comes from the Black Sea forests, and is principally shipped from the port of Poti. The produce of the Caspian forests, known in the trade as "Persian" wood, until last year was also exported through the Black Sea from Taganrog. This found its way after the commencement of the war *via* the Volga Canal to St. Petersburg. The produce of the Caspian forests is softer and inferior in quality to that of the Black Sea. It is a matter of interest to see whether one result of the war will be to open those Black Sea forests which the Russian Government has hitherto kept rigorously closed.

The falling-off of the supply has led meanwhile to various attempts to find substitutes for boxwood for many purposes. Messrs. Joseph Gardener & Sons of Liverpool have introduced with some success *Cornel* (*Cornus florida*) and *Persimmon* (*Diospyros virginiana*) for shuttle-making, for which purpose hitherto box has been in great demand.

The diminished supply has also drawn attention to the Himalayas as a source of supply. Dr. Brandis, the Inspector-General of forests in India, has corresponded with Messrs. Gardener on the subject. I am informed, however, by Mr. Godfrey Saunders of this firm that "the difficulty of transit from the mountains to the seaboard appears to be the great obstacle, and in addition the possible supply appears to be much smaller than is furnished from existing sources."

Mr. Robson J. Scott has presented to our museums blocks prepared for wood engraving of Hawthorn, which he states "is by far the best wood, after box, that I have had the opportunity of testing."—(*Kew Report*.)

THE INTRODUCTION OF FOREIGN TREES INTO GREAT BRITAIN.

ALL the timber required in this country for building and fuel was of home growth till about the time of Henry VIII. Holinshed informs us that in the same reign plantations of trees began to be made for the purpose of keeping up the supply, and inquiries to be made respecting the productions of other countries, and as objects of curiosity, more than from any idea of cultivating them for their commercial value, some specimens made their appearance in England. Before this date, in the early history of the country, when Britain was a Roman province, the conquerors had enriched the soil of England with many trees not indigenous to it. According to Whitaker, the Romans brought over the Plane, the Lime, the Box, the Elm, and the Poplar. The Apple is supposed to have

been introduced into Britain by the first colonies of the natives; and among fruit trees we owe to the Romans the addition of the Pear, the Damson, the Cherry, Peach, Apricot, Quince, Mulberry, Chestnut, and Fig. It is only to be expected that where there are such meagre historical records there should be some difference of opinion among the learned; but the above are generally accepted as facts, though secondary evidence has in some cases to be relied upon, none other being forthcoming. The monks were often laborious arborists, and if not to the Romans, we owe to them the Sweet Bay and the Arbutus. Dr. Walker thinks that the Elm was brought over from Palestine by the Crusaders. In the beginning of the thirteenth century the Apple appears to have been cultivated to some extent in Norfolk, for in 1205 Robert de Evermere held his lordship in that county by payment of two hundred Pearmain and four hogsheads of wine. Gerard's catalogue of trees, dated 1596, contains the Laburnum, the Judas Tree, the Laurustinus, the White Mulberry, the Nettle Tree, the Pinaster, the Arbor-Vitæ, the Yucca, &c., as being among the foreign trees in his garden in Holborn. It is not known for certain whether Raleigh brought over any hardy trees from America, though it is probable he did so, as he introduced the Cherry tree into Ireland, and his manor at Sherborne is said to have been magnificently embellished with woods and gardens.

Sixteen foreign woody plants were introduced into England in 1548, but the names of the introducers or first cultivators are almost entirely unknown. Among these trees were the Sweet Bay, Mulberry, Platanus, Stone Pine, common Spruce, Fir, Cypress, and the Savin Juniper. From 1551 to 1596, during the reign of Mary and the greater part of that of Elizabeth, twenty-four plants are recorded, among which were the Peach, the Nectarine, and the Walnut from Persia; also the Quince and the Quercus ilex, or Evergreen Oak. The names of the introducers, says Loudon, are not known, with few exceptions, such as that of Hugh Morgan, apothecary to Queen Elizabeth; Gray, a London apothecary; L'Obel, afterwards apothecary to James I.; and Dr. Grindal, then Bishop of London. According to the same authority, from 1596 to the end of the century forty-six different species were introduced, and upwards of thirty of these were first recorded by Gerard. Among these were the English and Scotch Laburnums, the common Syringa, &c. The total number of foreign woody plants which are known to have been cultivated in Britain during the sixteenth century is only eighty-four, exclusive of two varieties of the Laurustinus and nine of the Phillyrea. Although it is impossible at this distance of time to ascertain the names of all the persons to whom we are indebted for the introduction of these plants—and probably many were masters of ships, or even common seamen—it is certain that the merit of the first cultivation of the greater part of them belongs decidedly to Gerard, whose garden was situated between Ely Place and Field Lane, Holborn, London.

The great introducer of foreign trees in the seventeenth century was Dr. Compton, Bishop of London from 1675 to 1713. Ray has a chapter on the rare trees and shrubs he saw in the bishop's garden at Fulham. Among these are enumerated the Tulip Tree, the Magnolia, the Sassafras, the Hickory, the Box, Elder, &c. Evelyn, who lived in this century, had four large, round, and smoothly clipped plants of the Phillyrea on naked stems, and a hedge of Holly 400 feet long, 9 feet high, and 5 feet wide, of which he was very proud, and mentions it more than once in his writings. This was at Says Court, Deptford, and the hedge was ruined by Peter the Great when he resided there, the erratic Czar having caused himself to be wheeled through it in a wheelbarrow! But Evelyn cared more to promote the planting of valuable indigenous trees than to introduce foreign ones. In this century botanic gardens began to be established, which were the means of introducing many valuable trees; and there is a tradition that about 1670 Dr. Uvedale, the Master of Enfield Grammar School, commissioned one of his scholars who travelled to bring a plant of the Cedar of Lebanon from Mount Lebanon, and that he brought the one which is either standing there now or was standing of late years.

The Cedar of Lebanon was introduced into Scotland in 1683, the same year in which it was planted by Bishop Compton at Fulham and in the Chelsea Botanic Garden. The total number of woody plants introduced during the seventeenth century appears to have been upwards of 130. In the eighteenth century five hundred hardy trees and shrubs were introduced from abroad; 108 being from Europe, three hundred from North America, three from Chili, thirteen from China, six

from Japan, two from the Cape of Good Hope, thirty-three from Siberia, two from Tartary, one from Egypt, two from Morocco, one from Aleppo, one from Barbary, and the remaining few chiefly from Asia. At this time private enterprise became enlisted in the cause, and this fact, together with the formation of public gardens, the curators of which were ever on the look-out for new specimens, deprives the subject of some of its interest. By these means, principally, ninety-four trees and shrubs were introduced from 1801 to 1810 inclusive; from 1811 to 1820, 374; and from 1821 to 1830, 318. To the intelligence and zeal of our nurserymen we owe very much, and their thorough knowledge of the best treatment of trees is probably not to be surpassed by the arborists of any country. But from the date of the general establishment of such businesses, and of botanic gardens, it becomes a matter of extreme difficulty to ascertain when any particular tree was introduced, nor is it a matter on which much interest would be felt; but it is different when we deal with the records of centuries ago, when Bishop Compton laboured in his nurseries at Fulham, when Petticoat Lane was perfumed every spring with Hawthorn blossom, and you might have gathered Violets where you can now only find old clothes; or when Gerard studied the treatment of foreign trees in his Holborn garden, and the Czar Peter rode in a wheelbarrow through Evelyn's Holly hedge.—(*Journal of Forestry*.)

WORK FOR THE WEEK.

KITCHEN GARDEN.

Sow Lettuces for autumn and early winter use and to lift for protecting in frames. The best for this sowing are Neapolitan and All the Year Round Cabbage sorts; Hicks' Hardy White and Bath or Brown Sugarloaf Cos varieties. They should be sown in firm ground to induce firm close growth, as, if the autumn be wet, they form flabby leaves without much heart when sown in or transplanted to open rich soil. Plant without delay the Michaelmas crop of Cauliflowers. If any Celery for late spring use remain to be planted get it out at once; earth-up the early crops as they advance and make sure that there is sufficient moisture at the roots, as after earthing it is difficult to afford water to benefit them. A sowing of Chervil made now will stand for late use without running, and Corn Salad will afford a supply for the autumn and best part of the winter. Continue to plant with Broccoli, Savoy, Borecole, &c., all vacant ground as it is cleared of Peas, Potatoes, &c. Discarded Strawberry plantations may be at once planted with Dwarf Savoy and Coleworts at 12 to 15 inches distance apart. In light soils no digging will be necessary, the plants growing more sturdy and forming better hearts in firm than in loose soil. Sow Endive for transplanting to the foot of walls in September. Do not neglect to sow a moderate breadth of Spinach and Radishes every fortnight, as these crops come in quickly and soon become past use. To have tender sweet Radishes in hot weather water must be given frequently and copiously. The earlier kinds of autumn-sown Onions, Garlic, and Shallots should be taken up as they cease growth, spreading the bulbs over the ground for a few days so that they may be well dried before taking them in. The Garlic and Shallots should be bunched and suspended in a cool dry shed. Potatoes are lifting well and for the most part in good condition, though we hear of a few cases of disease, which happily are not numerous and very limited in extent. Early kinds in some localities are sufficiently ripe to take up and store. This should be done so soon as the tubers are full-sized and the skins set so as not to be displaced by rubbing, and if for use should be kept from light in a cool rather dry place; but if for seed place thinly on shelves in a well-ventilated dry shed. In case of disease infesting the haulm take up the crop at once before it attacks the tubers.

HARDY FRUIT GARDEN.

Apricots are approaching ripening, and although not a heavy crop the fruit is fine. When the fruit commences ripening attention must be given to prevent its being injured by ants, which take a fancy to the first ripe portion, and commit such havoc as to cause its speedy decay. Guano strewed in their runs and over their nests will cause them to migrate, but the best remedy is to put honey and water to the depth of an inch in jars placed at the foot of the wall when the fruit commences ripening, and the ants will drown themselves. Woodlice also are troublesome. They are trapped readily in small pots containing portions of boiled potato wrapped loosely in a little hay and placed in the forks of the branches and at the base of the walls. Earwigs may be trapped in pieces of beanstalk cut into lengths of about 6 inches and inserted among the branches; they should be examined every morning, and any insects concealed therein blown into a pail of water. Nor is the fruit exempt from the attacks of snails and slugs. Search may be made for them with a lantern after dark, or baits of brewers' grains may be laid at the foot of a wall and seen to early in the morning. Wasps should be trapped in soda water bottles about half filled with sweetened ale and suspended in the

trees. Birds may be kept at bay by nets, but unless the weather be unusually dry they will not cause much trouble.

Peaches, Nectarines, and Plums are upon the whole good crops. The fruit promises to be fine, and should be assisted in swelling-off by copious supplies of water, mulching with short manure. In the case of weakly trees carrying heavy crops of fruit weak liquid manure should be given, and the fruit more severely thinned than that of vigorous trees. Red spider is showing itself upon the Peach and Nectarine trees, and should be promptly met by thoroughly syringing with the garden engine in the evening. In case of a severe attack syringe thoroughly with a solution of soft soap, 3 ozs. to the gallon of water. The most forward fruit of Apricots, Peaches, &c., will require attention in turning the leaves aside, but avoid cutting them off, or only that part of them overhanging the fruit, leaving a portion of each leaf so that the buds at the base may mature.

In the late houses thorough syringings must be given morning and afternoon, and the inside borders must be well attended to with water; in a dry period the outside borders should be well watered and mulched. Some liquid manure will help to swell the fruit to the largest size. Netting should be placed below the trees so as to catch and prevent bruising any fruit that may fall from ripeness. The shoots must be kept tied-in, any intended for bearing next season (except extensions) should be stopped at 10 to 12 inches, and any laterals at the first leaf. The earliest-forced house will require to be kept as cool and airy as possible with a view to arrest premature growth, to which Peach and Nectarine trees are peculiarly liable when forced year after year successively.

Apricots and the early kinds of Peach, Nectarine, and Plum must not be syringed after they commence ripening, but there must not be any deficiency of water at the roots or the successional fruit will not swell off well nor ripen perfectly, besides impairing the development of the buds for future bearing. Those swelling the fruit must be supplied with abundance of water, whether in pots or planted out, renewing the surface dressings and affording weak liquid manure occasionally. Syringe overhead in the afternoon at about five o'clock, closing the house at that time unless very bright, when closing may be deferred until six o'clock, admitting air at the last-named hour in the morning if bright, or somewhat later; the weather regulates these matters. Stop strong shoots, and rub off superfluous, admitting light and air freely to the fruit to give it colour and flavour. Look frequently over the various kinds of fruit trees trained to walls or otherwise, nailing or tying-in leading shoots, and removing or stopping those which are superfluous.

FRUIT HOUSES.

Vines.—The Vines in the earliest-forced house will now require a dry atmosphere to thoroughly ripen the wood, but it will not be necessary to employ artificial heat to secure the requisite warmth. All laterals and late growths must be kept well in hand, and complete rest afforded by keeping the border cool and dry. To do this cover the outside border with dry bracken and withhold water from the inside. Young Vines of this year's planting should be allowed to ramble at will provided the light is not too much obstructed. Nothing is gained by crowding the foliage of young Vines, which have to be cut back to three or four eyes at the winter pruning; whilst any that are to afford fruit next season should have the laterals pinched back rather closely to a length of 6 or 7 feet, above which the laterals may have more latitude, as they will aid in the production of roots. Vines in pots for next season's fruiting will have completed their growth and cannot have too much light. The watering should be no greater than to keep the leaves fresh. Keeping too dry will induce premature ripening, and over-watering only tends to continued growth; whereas the object should be to thoroughly plump the eyes and mature the growth. Grapes will by this time have been thinned carefully, and if grown in pots should have the benefit of liquid manure, the pots well supplied with water and the surface mulched with rich material, so that the berries may swell to a good size. Keep the shoots well stopped to concentrate the juices upon the principal foliage and fruit, but any weakly Vines may have growth encouraged, as it promotes increased root-action. Avoid overcrowding. Those trained over the pathway should be kept well stopped, so that the fruit trees may not be too much shaded. Grapes in the intermediate houses will be colouring, and should have a thorough supply of water to the roots after sprinkling the border with guano or soot, which is nearly as rich in ammonia as many manures. Admit air very freely whenever the weather permits, and maintain a night temperature of 70°, and 5° higher by day as a minimum or from fire heat. Late Grapes should have a minimum temperature night and day of 70°, and if air be freely admitted by day scalding will be next to unknown; even Lady Downe's does not scald when the above precautions are taken in time. Ripe Grapes should be frequently looked over, removing any shanked or decayed berries. Keep the atmosphere dry and airy and as cool as possible. Ripe black Grapes will not keep colour long unless the foliage is good, but thin shade during very bright sun will assist in preserving the colour and bloom.

Orchard House.—As soon as the fruit is gathered Cherry trees in pots should be removed to a sunny sheltered situation in the

open air, to insure the thorough ripening of the wood and perfecting of the fruit spurs for next season. If there be any traces of insects thorough syringings must be given so as to cleanse the trees of red spider, and if there be any black fly dip the shoots or syringe with diluted tobacco juice. It is important that the foliage be maintained in a healthy state some time longer. Fig trees in pots should have plenty of water whilst the fruit is swelling, as if there be any deficiency of moisture a check will be given which will cause the fruit to drop off. Syringing must be continued to keep the foliage free from red spider, but must cease as the fruit shows symptoms of ripening, or it will be spoiled in appearance and flavour. The young shoots may still be stopped. A second crop of Figs cannot be depended on in unheated orchard houses, but if a late crop of this delicious fruit be wanted none are more calculated to furnish it than trees that have perfected a first crop in the orchard house and are in good condition. The shoots, having been stopped, will show a second crop plentifully. The foliage being clean and healthy, they may, as soon as the fruit is gathered, be removed into a light airy house, where they can have the benefit of artificial heat, in which they will afford a crop of fruit little inferior in size and quite equal in flavour to the first crop. Pyramid and bush Apple and Pear trees are making much wood and should be restrained by stopping. Raspberries have been excellent and in some places are so still. As the crop is gathered the bearing canes should be all cut out, and the young ones thinned to about six to each stool so that sun and air may have free access to them, thus securing the ripening of the wood and buds. Autumnal kinds should be well watered and mulched, and secured to stakes if necessary. Do not neglect to pot runners of Strawberries as they may be had, for there is yet time to layer them in pots for forming new plantations. Well-rooted plants put out from now to early September will afford a nice crop of fruit next season. Forced plants which were put out in May and early June should have abundant watering and be mulched with stable litter, and they will fruit abundantly in late summer. Any Currants or Gooseberries required to be kept late should be covered with hexagon netting, which is better than mats. Those fortunate enough to have these fruits against low walls will have no difficulty in keeping the fruit until a late period, protection being afforded against birds and wasps.

PLANT HOUSES.

Greenhouse.—The varieties of *Lilium speciosum* (lancifolium) should have the stems tied so as to admit plenty of light and air to the foliage. Look well after aphides and dust with tobacco powder or syringe with tobacco water, washing well off the following morning. Afford a top-dressing of old cow dung or well-rotted manure and a liberal supply of weak liquid manure; over-watering is equally injurious to the roots as a deficiency is to the foliage, which, if the soil get very dry, is sure to cause the falling-off of the lower leaves. These with plants of *L. auratum* coming on for late flowering should be plunged in ashes in an open sheltered situation, well staked and secured to prevent the stems being broken by winds, and removed to the greenhouse when advanced for flowering. Plants of *Lilium* that have done flowering should be placed out of doors and be well attended to with water with a view to the plumping of the bulbs, upon which depends next year's flowering. Early-flowered *Pelargoniums* should at once be placed outdoors in the full sun, affording no more water than to prevent flagging, with a view to the thorough ripening of the wood before cutting down. If likely to become too wet from rains lay the pots on their sides. *Chrysanthemums* must be attended to in staking and tying-up the shoots as they advance in growth, for if this be neglected they are liable to be broken by wind. Early-flowering *Heaths* will have completed their growth and should be placed outdoors upon a bed of ashes sufficiently thick to exclude worms. Afford them a position where they will be protected from bright sun at midday, but the shade must be of a light description, as too much shading is injurious, and after a week it may be dispensed with, as thorough exposure will cause the hardening of the wood and setting of the bloom. The plants should be examined at least once a day for water, and any requiring a supply be afforded it plentifully, regulating it by the strength of the plants, the freer-growing requiring more copious supplies than those less free in growth. *Camellias* that flowered late should have every encouragement to make a good growth by maintaining a moist atmosphere and affording copious supplies of weak liquid manure, especially to weakly plants. Those that have set the buds should be kept cool, either by placing outdoors in a position shaded from bright sun, or in a house that admits of very free ventilation. This is much the more preferable method, as, if the weather be very wet, the soil becomes soddened, the roots perish, and the buds turn brown and drop.

Now that structures of this kind may have the plants placed outdoors in sheltered situations, an excellent opportunity is afforded of giving them a thorough cleaning, the required repairs being made and the woodwork thoroughly painted. Work of this kind is much better done at this time of year than at times when the plants must remain wholly, or in part, inside the house, which entails much needless labour and after-injury to the plants. Plants

not only look better, but grow better, in a clean house than a dirty one.

TO CORRESPONDENTS.

. All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

A DAY IN THE COUNTRY.—"Last year some of your readers were led generously to help us to provide for nearly five hundred poor boys and girls who attend the Hackney Juvenile Mission a day's excursion into the country. This year the Manager hopes to be able to take some three hundred children for a day in July or August, and I should be glad if your readers will again aid practically by sending donations to either Mr. John Newman, Hon. Manager, 117, Cheapside, E.C.; Mr. H. M. Heath, 4, St. Thomas's Road, Hackney; or to Athro Alfred Knight, 71, King Edward's Road, South Hackney, London, E."

FOXGLOVE (Mrs. D.).—Sperts are common in Foxgloves, but are not permanent. The white variety is very usual.

VEGETABLE MARROWS (Tryng).—Very varying temperature probably causes the decay.

PEARS (J. E.).—Any of the leading nurserymen could obtain them for you.

MOLES (C. J.).—We cannot guess how the moles got into the cistern. They could creep up a pipe 2 inches in diameter. Put a piece of wire net over its mouth.

GRAPES NOT COLOURING (W. Pantry).—No wonder. Half the number of bunches would be a good crop.

TREATMENT OF NEGLECTED FUCHSIAS, &c. (Paddle).—Prune your Fuchsias and replot immediately, syringe them freely two or three times daily, and they will soon put forth fresh growth. Repot the Ferns immediately, but do not disturb the Cyclamens planted in the open ground till the end of September, then take up and replot, retaining a little soil about the roots and using pots of a size proportionate to that of the plants. Lift your Potatoes as soon as the tubers have ceased swelling. If any are diseased spread the whole out thinly in a dark airy room, and examine them every few days.

TRANSPLANTING OLD CURRANT BUSHES (E.).—With a due exercise of care in saving as many roots as possible, and retaining a slight ball of soil with the roots, your old Gooseberry and Currant bushes may be transplanted advantageously and successfully.

SUCCESSIONAL SORTS OF STRAWBERRIES (Idem).—La Marguerite, President, Dr. Hogg, and Frogmore Late Pine, are four good sorts ripening in the order in which they are named.

SUMMER PRUNING FRUIT TREES (Idem).—Read our reply to "E. H. R." in this issue, also prune the leading shoots simultaneously with the side shoots. The same system of pruning applies to all kinds of Apples, Pears, Plums, and Cherries, whatever may be their peculiar habit of growth. Do not forget, however, that some sorts require much greater care in training than others, each tree affording a clear indication of its peculiar requirements.

ROSE TREE LEAVES INSECT-EATEN (X. L.).—The semicircular pieces are eaten by the Leaf-cutter Bee. There are drawings and descriptions in "The Gardeners' Magazine of Botany." Its scientific name is *Lyda inanita*. The fly hovers over the Roses, and may at once be identified by its glossy yellow wings.

PLANTING ROSES, SHRUBS, &c. (Sambo).—November is the best month for planting Roses; Roses in pots may, however, be planted at any time. If you transplant shrubs in August, remember that due attention must be given to watering; much better would it be to wait till September, and so save much labour. Pansies, Pinks, and Carnations may all be transplanted in August if they are well watered regularly afterwards. Lilies may also be moved then if the flowering is over. For the flower beds which you purpose making in that month take such spring flowers as *Myosotis*, *Aubrietia*, *Silene*, *Saponaria*, *Viola*, *Limnantes* to clothe the surface with greenery during winter, and to afford a brilliant display of bloom in spring. Or you may make pretty beds of hardy succulents, dotting them with such bulbs as *Crocuses*, *Snowdrops*, *Tulips*, and *Hyacinths*.

STRAWBERRIES FOR A LONG SUCCESSION (M. D. D.).—Black Prince, La Marguerite, Pioneer, La Grosse Sucrée, Vicomtesse Hericart de Thury, President, James Veitch, Dr. Hogg, Sir Charles Napier, Frogmore Late Pine, Elton Pine, and Helene Gloed.

RAISING AUCUBAS FROM SEED (G. Todd).—March is the best month for sowing, or for a general rule sow the seed as soon as gathered. No particular treatment is required; it usually vegetates freely in a greenhouse, and if due care is exercised in watering your seed will no doubt germinate very soon.

SUMMER PRUNING FRUIT TREES (E. H. R.).—Pear and Plum trees should be pruned twice during the season of growth. The first time after the spring growth is some 9 inches or a foot in length, and again at mid-summer; after which let the shoots grow, and early in September twist each shoot round immediately beyond the third or fourth eye from its base, turning the end downwards. By this process the bottom buds become plump and full without starting into growth, some sap still finding its way among the bruised tissues of the "twist," which is cut off with the turned-down shoots as the leaves fall.

MELONS SPLITTING (Hampshire).—The cracking of your Melons was probably caused by watering after the fruit had ceased swelling. In future when the fruit begins changing colour gradually reduce the quantity of water, giving very little and that only around the sides of the box or pit wall. Cracked fruit is also attributable to careless watering, such as letting

the soil become too dry before the fruit is full grown, and then again making it very wet, thereby inducing such a strong flow of sap as causes the fruit to crack.

GREENHOUSE ASPECT (T. K.).—Presuming that the south end of the greenhouse will be glazed from about 3 feet from the ground to the roof, we should not hesitate to erect the house in the position you propose—i.e., facing the east. An accidental transposition of words occurred in the answer you have quoted.

MILDEW ON GRAPES (F. H.).—Do not remove the sulphur till the Grapes are ripe. It is only then that you can be assured that all danger from mildew is past. You must sprinkle the sulphur on the leaves as well as the fruit.

WHITE GLOXINIA (J. G.).—The flower is good and worthy of a name, yet is not equal to such varieties as *Avalanche*, *Boule de Neige*, and *Mont Blanc*.

GRAPES SCALDED (Clare Subscriber).—Your Vines, judging by the leaf sent, are extremely healthy. The "disease" we think is the scald. A little fire heat at night and a rather dry atmosphere, together with ventilation early in the morning, is the only mode that we can suggest for arresting the injury. There are varieties of Black Hamburg slightly differing from each other. Both your Grapes are Black Hamburgs. Your letter shall have our further attention.

VINES INJURED BY SULPHUR (Leafless).—Encourage your Vines to make a second growth by syringing them and providing a warm moist atmosphere. The growth made, if the autumn prove favourable, may still have time to become matured. Your Orange trees require fresh soil, rich turfy loam, and to be placed in heat, and syringed freely to encourage growth. Keep the foliage clean and free from insects.

NAMES OF PLANTS (Tyro).—The Begonias are all florists' varieties. (*Begonia*).—Specimens must be sent to our office, and not more than six at a time. (*Ramamo*).—*Galea orientalis*. (*G. B.*).—*Deutzia scabra*. (*A. G.*).—Specimens insufficient; 6, *Achillea Millefolium*. (*A. H. Sh.*).—Orchids too much shrivelled; 2, *Brassavola* sp. (*J. S. M.*).—*Galea officinalis*. (*T. Wrighton*).—*Epipactis palustris*. (*Peat*).—The fronds are not in fruit. (*G. W. J.*).—We cannot determine *Ceanothus* from a scrap. (*W. M.*).—*Clethra* sp. (*E. H.*).—1, *Pentstemon* sp.; 2, *Monarda didyma*; 3, *Thalictrum* sp.; 4, *Melittis melissophyllum*. (*C. South*).—3 and 4, *Lastrea Filix-mas*. Send the others again in fruit. (*Miss Barron*).—*Philadelphus* sp.? (*G. N. V.*).—*Erythraea Centaureum*. (*A. Z.*).—1, *Begonia Dregei*; 2, *B. Ingrami*. (*B. E. Wake*).—*Mathiola incana*. (*A. F. Pemberton*).—*Epipactis latifolia*, a fine specimen.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

CULTIVATION OF TURNIPS.

THE cultivation for common turnips is somewhat different from the preparation of land for Swedish turnips, because the use of artificial manures is now general, and it is seldom a long fallow is required except upon strong lands very much out of condition and foul with couch grass, &c. It sometimes happens, however, that strong heavy soils are sown with early turnips to be fed off with sheep during the months of August and September, in which case the land should be treated precisely in the same way as directed and recommended in our late article on the cultivation for Swedish turnips, taking care if possible in all cases to till the land in the previous autumn on the surface, and then to plough it up deep or make it into stretches, in order that it may lie high and dry during the winter months. It is only by this means that the full effects of spring tillage can be obtained, especially in seasons like the past, when the whole of the month of May was unfavourable for the tillage of strong land in consequence of the succession of heavy rains. After autumn tillage the land will seldom require much spring working, and ploughing should be avoided, especially as it is of great importance to retain the weather-beaten surface. To have the full advantage of this we prefer to scarify only, and then to drill with manure in the usual way about the 20th of May. The turnips will then be sufficiently forward to be fed off on the land before the setting-in of the autumn rains, which is so desirable in obtaining a good seed time for the wheat crop which is to follow. As the far greater portion of the turnips grown on light and friable soils are now taken as a second crop after rye, trifolium, vetches, and sometimes after trefoil and Italian rye grass cut for hay, it becomes a question almost entirely of the state of the land as regards cleanliness in the autumn before sowing the fodder crops, as there is no time to clean the land successfully after the crops are cut up or fed off without so much delay as to risk the turnip crop. In many seasons if it is attempted to plough the land several times, with the consequent harrowings and rollings, the precious moisture required to vegetate the turnip seed is often lost, and with it the prospect of a full crop of

roots. It is therefore desirable to select those fields which are the cleanest for sowing with any of the fodder crops, and it is best, especially with land intended for trifolium, to have the bunches or lumps of couch or onion grass forked out by hand, as this will take less time and be done at far less cost than ploughing, and without delaying the seed time. Whether the land is intended for trifolium or other fodder crops it is a good plan to fork out the grass, because when ever so little quantity of couch grass is ploughed-in it will increase, especially where the land is in good heart and condition, to a great extent during the early spring months, and probably delay the seed time, and sometimes destroy the prospect of a turnip crop—in fact it may be accepted as a rule in agriculture that the first cost of removing couch from the land will be the least, cost what it may. After the removal of a green crop the tillage should commence immediately, every day being of the utmost consequence, either by very shallow scarifying or rafter-ploughing, harrowing, rolling, &c., to remove any weeds or haulm of green crops which may be left, because the burying of these substances is inimical to the growth of roots by making the land too light and hollow, and in their decay fermentation takes place, a blue mould is formed containing injurious acids extremely detrimental to the successful culture of turnips, and is often the proximate cause of club root, or "finger-and-toe" as it is called, upon land where it is deficient in chalk and lime. Although we are strongly opposed to the burning of couch or weeds, preferring to rot them as a dressing for pasture land, yet we find that substances of some kind are required to mix with artificial manures, whether of superphosphate, guano, or others; and we recommend, especially upon sandy or loamy soils, a mixture of screened chalk made perfectly fine and prepared in the winter months or early spring, in order that it may be quite dry and run freely with the manure from the drill. In districts far removed from chalk it is a good plan where town dung and refuse ashes are available to have these screened for use, as they not only serve to mix with the manure in order to its better distribution, but we have seen that it acts to some extent like chalk, and greatly encourages the growth of turnips in the early stages of growth.

In selecting a drill for the home farm we recommend a one-horse drill, which will drill two rows at once at 2 feet apart, or three rows at 18 inches apart. After using this kind of drill for nearly thirty years we have found its advantage, especially upon hilly land, not only because it is light of draught, but it may be worked by one horse as fast as the land is ploughed without dividing the labour of other horses. Now this to our mind is a matter of prime importance in turnip cultivation, particularly after green crops, because it very often happens that in waiting for the large heavy drill the land gets too wet or too dry, according to the weather, and the season is never so surely obtained as drilling day by day as fast as the land is ready, and nothing contributes practically to the attainment of this object so well as the use of the one-horse drill. For some years the water drill had some advocates, but it seems now to have gone out of use. The difficulty of obtaining and carting water in the hill districts appears to have entailed too much labour, and also loss of time. In the use of artificial manures for turnips, if the green crops have been fed off by sheep, 3 cwt. per acre of bone superphosphate with ashes or other matters will prove sufficient to produce a full crop of turnips, particularly if the sheep received cake or corn with the green food; but in case the fodder crop has been used for feeding horses, cattle, &c., at the farmstead, as is often the case on a well-conducted home farm, then more manure should be applied with the drill, and 3 cwt. of superphosphate with 1½ cwt. of Peruvian guano is not too much, and will generally produce a full crop.

The kind of seed is a matter of importance, particularly if the crop is intended to remain in the ground during the winter months, and if we look at the seedsmen's list of sorts a novice may be entirely bewildered in making his selection, and it will certainly depend upon the period and purpose for which the roots are required for use. The Scotch Yellow being a hybrid variety

are useful to stand the winter, and are very quick of growth, and will prove a partial substitute in case of a failure of the Swedish turnip. But for early feeding in the autumn or winter, parties often select the White Pomeranian, White Tankard, or Green Globe, but we have found that either of these sorts if sown early will not keep, and if not rotten they lose their feeding properties very quickly. We therefore recommend, as the result of our own experience, the Greystone or Red Mammoth sorts, as we find they do well both for early or late sowing, they grow quickly, they keep sound, and are very forcing for stock. When turnips are sown very early they require as much room in growing as Swedes, and they often produce as much weight per acre, and may therefore be drilled at 2 feet between the rows. For later and winter feeding we think 18 inches the best distance. The time of sowing will of course vary according to circumstances, more especially as a second crop, but the best time for sowing the main crop for winter and early spring feeding is from the 1st to the 20th of July. The quantity of seed is of great consequence, and we recommend not less than 3 lbs. per acre, not only on account of the enemies to the young plants, but also because a thick plant always grows quickest and comes earlier to the hoe, also when the plants are thick and regular they may be set out by the hoeing machine, or by horse-hoeing across the rows; and where hand labour is scarce, and when the hoeing is required in the busy time of harvest these methods of hoeing will save the crop from serious damage, and the hand-hoeing may be delayed until the hoers are at liberty. It will be noticed that we have recommended a portion of guano as manure for late turnips, although it will be found in our article relating to Swedish turnips, we objected to its use. This, however, is to be explained by reason of the Swedish turnips having come to maturity, and also being required to be kept afterwards, whereas in late turnips they are not often arrived at maturity before being used as food for stock, and have, therefore, no time to decay or lose their value. There is no doubt that the light soils are best adapted for the growth of common turnips, not only because they grow more quickly after the autumn rains commence, but also because they can be fed-off with sheep upon the land without either injury to the animals or the succeeding crops. We have on this occasion not made any remarks upon the latest period at which turnips can be sown and grown, as we hope to treat of this matter in another article at a future time, and more especially as relates to the growth of stubble turnips, as well as those sown at a late period with varying preparations and different objects in view.

WORK ON THE HOME FARM.

Horse Labour.—The horse-hoeing of Swedes and early turnips must be continued, for we have just passed a season almost unparalleled for the production of weeds, and nearly everywhere are to be seen the weeds in advance of the work of destroying them. The cultivation for and drilling of turnips after green crops is still in progress, and in a few days the forwardest of the crops of peas and winter oats and also white Canadian oats, rye, &c., will be ready for carting to stack; in fact, we have seen a sample of new fresh-thrashed oats of the Canadian sort, and as we are now so close upon the general harvest for cereals of all kinds in the earliest districts, it will be well to anticipate the period, and be so prepared that all the horse labour as well as manual labour may be ready at the time required. There are many ways in which these matters may be forwarded beforehand—by drawing straw and reeds for thatching, making spars, &c., also carting faggots for making rick-stands, for it is seldom now that much corn is stacked in the rick yard as it used to be, because the ricks being made in or near the fields where the corn is produced, saves horse labour and saves time also, so necessary in securing the grain when it is once in order.

Hand Labour.—We have often known farmers who have deferred cutting corn at the proper time, saying they had other work to be done for a few days before they could commence harvest, and this is oftentimes the prelude to losses in various ways. If the corn is over-ripe the grain becomes poor and weak, fetching a lower price in consequence, and in exposed situations we have known very serious loss by the grain being whipped out by wind. The early cutting of grain not only gives the best sample, but when cut and set up in shock, if it takes heavy rains it will not sprout so quickly. The quickset and all other clipped hedges should now be finished trimming, the sooner the better. We see also that a hedge-trimming machine has been exhibited at the Royal Agricultural Society's Meeting at Bristol, and was approved by the Judges. This is a step in the right direction, and will save labour at the busiest period of the year. As fast as peas are cut the women can move them on to the half the land, which will assist in drying them, and also enable the horses to plough half the land, and if required it may be sown daily with turnips, mustard, rape, and such-like crops, and when sown the peas if not dry enough for carting may be moved on to the other half of the land, and thus enable the whole of the field to be seeded or ploughed before carting the crop of peas. A few days of horse labour at that time are very important, because when harvest carting of corn is once begun there is little time for other work until it is finished. The shepherds now will be very busy on all farms

where sheep are kept, whether they are breeding flocks or sheep bought in for winter grazing. The draughts of off-going ewes and also of the wether lambs are now being made for sale; all these require careful selection as well as trimming to improve their appearance at the fair, or when sold at any time. In the grazing flocks which are now being bought for the winter feeding of roots on the land, also grazing on the stubbles and pasture land, if the purchases consist of lambs, especially if they are in good condition and well clothed with wool, it is an excellent and profitable plan to shear the lambs at any time up to the 14th of August, as they not only cut a valuable fleece if they are properly washed, but it will be found that all the wool will be gained, and if sold fat in February or March following, the animals will be worth from 5s. to 7s. each more than similar animals not shorn. This is accounted for by the animals being more comfortable during the winter months, the wool being shorter and more impervious to rain or snow. When lambs are winter-fed without being shorn the wool opens along their backs, lying down on either side. This allows the wet to fall on the skin and trickle down the sides of the animals to their great discomfort. This process of shearing is now facilitated by the use of a shearing machine which we have seen, and it is an ingenious invention by which a large number can be shorn in one day.

DARK AND LIGHT BRAHMAS IN COMPETITION FOR CUPS.

I SHALL be obliged by your inserting a few lines on the above subject to call the attention of committees of shows to the unfairness of giving cups between Light and Dark Brahmas; as the Darks are naturally the larger birds of the two the cups almost invariably go to them. I think exhibitors of both classes ought to be placed on the same footing. I have taken a good many cups, but never won when it was between the Lights and Darks. I was awarded one for my Light Brahma hen at Dunmow and Mr. Lingwood for his Dark Brahma, but as there was only one cup between the two classes the Committee gave it to him, although in catalogue it stated I had the cup awarded me. I have written to the Secretary, but have had no reply. In the report of the Boston Show it is stated the Lights as a class were the best, yet the cup went to the Darks. I should suggest that cups be done away with, making the prizes equal.—PHILIP HAINES, *Palgrave, Diss.*

CLECKHEATON POULTRY SHOW.

THE tenth annual Show was held at Cleckheaton on Saturday last, when one of the hottest days of the season contributed to the tenth success of the Society, there not having been a single unfavourable day as regards the weather, and as usual the gathering was very large. The arrangements were very good for an open-air show, but so terrific was the heat that one fowl and one Rabbit died, and many others had to be bathed with water to prevent them dying also; but the attention of the stewards was unremitting, and many of the birds were placed in their hampers to prevent other fatalities.

Game headed the list, but many of the birds were very ragged, although some were good. **Dorkings** a very good lot, as also the **Cochins**, the first and second of which were capital Buffs, and third Partridge. **Spanish**.—First a grand even pen, second the pen containing the doubtful hen, and third a fair pair. In **Brahmas** the two winning pens were very good Darks. **Hamburghs** had but three classes, but they were about the best section of the poultry. **Game Bantams** were good, but a little shabby in feather. In any other Bantams, first was a most lovely pair of Whites, perhaps the best in the fancy; second and third Blacks. In chickens a handsome pen of Buff Cochins were first; second very good Light Brahmas; and third Darks, and the class a very good one. **Ducks** were very good in all classes.

Of **Pigeons** Carriers were first, the winners being Duns, both cocks and very good. Pouters, first a Red cock in grand form, second a Black, better but rather flat. Tumblers, the Birmingham cracks alone, the hen first and cock second. Fantails very good; a beautiful Squeaker was first. Dragons all noticed, the winners Blues. Jacobs, first Red and second Black. Turbits, first a Blue Spikehead, and second what is now rare, a good Shellcrown. Owls, first White African and second a Blue English. Antwerps were very good indeed in both classes, especially the winning Short-faced Dun.

Rabbits had only four classes. First in Lops was the well-known Fawn doe from Blackburn, second a grand Fawn-and-white doe, also very good. Himalayan and Angora were not a good class; the new French-Grey Angora first and a fair White one second. In Silver-Greys there were only five, but all were good and of the most correct shade. In the Variety class first was a good Silver-cream, second a Silver-blue Dutch well marked, and very highly commended a correct Silver-cream, but a little moulty.

POULTRY.—GAME.—Any variety.—Cock.—1, R. Walker. 2, J. Brown. 3, A. Swires. Black Red.—1, H. C. Mason. 2, R. Hemingway. 3, W. Rudd. Brown Red.—1, W. Firth. 2, W. Rudd. Duckwing, Blue or Grey.—1, H. C. Mason. 2

W. Rudd. 3, W. J. Mason. *Any other variety*.—1, W. Rudd. 2, R. Walker. 3, H. C. Mason. DORKINGS.—1, J. Stott. 2, J. Walker. 3, W. H. King. COCHIN CHINA.—1, J. Walker. 2, W. Mitchell. 3, E. Thornton. SPANISH.—Black.—1, J. Powell. 2, J. Thresh. 3, J. Rawnsley. BRAHMA POOTRAS.—1 and 2, W. Schofield. 3, G. W. Henshall. HAMBURGS.—Gold or Silver-pencilled.—1 and 2, J. Rawnsley. 3, H. Digby. Black.—1, J. Rawnsley. 2, J. E. Smith. 3, W. Bentley. Gold or Silver-long-faced.—1 and 2, J. Rawnsley. 3, H. Digby. BANTAMS.—Black Red or Brown Red Game.—1, J. Sugden. 2, W. Rudd. 3, R. Swales. *Any other variety Game*.—1, J. Sugden. 2, F. & L. Holt. 3, A. Sheard. *Any variety except Game*.—1 and 3, J. F. Crowther. 2, W. H. Shackleton. 3, S. Bretherick. ANY OTHER VARIETY.—1, J. Rawnsley. 2, H. W. & H. King. 3, J. E. Clayton. SELLING CLASS.—1, J. Powell. 2, H. Yardley. 3, J. Holmes. ANY VARIETY.—Chickens.—1, W. Mitchell. 2, H. W. & H. King. 3, G. W. Henshall. DUCKS.—*Any variety*.—1 and 2, J. Walker. 3, W. & F. Briggs. ROSEN.—1, J. Walker. 2, J. Newton. 3, J. R. Pollard. *Any other variety*.—1 and 2, J. Walker. 3, J. F. Crowther. 3, J. Rawnsley. TURKEYS.—1, J. Walker.

PIGEONS.—CARRIERS.—1, H. Yardley. 2, J. W. Robinson. POUTERS.—1 and 2, J. W. Robinson. TUMBLERS.—1 and 2, H. Yardley. FANTAILS.—1 and 2, J. F. Liversedge. DRACOONS.—1, R. Woods. 2, J. Booth. JACOBS.—1 and 2, T. Holt. TURBOTS.—1, R. Woods. 2, H. Yardley. OWLS.—1, J. Booth. 2, J. Thresh. ANSWERS.—*Long-faced*.—1, J. Booth. 2, B. Rawnsley. *Short-faced*.—1, H. Yardley. 2, S. Wade. ANY OTHER VARIETY.—1, J. Thresh. 2, J. W. Robinson. SELLING CLASS.—1, J. Wright. 2, H. Yardley. RABBITS.—LOP-EARED.—1, T. & E. J. Fell. 2, C. Clough. HIMALAYA OR ANGORA.—1, J. Robertshaw. 2, S. Buckley. SILVER-GRAY.—1, T. & E. J. Fell. 2, J. Firth. ANY OTHER VARIETY.—1, E. Pepper. 2, J. H. & A. Petiar.

JUDGES.—Mr. J. Dixon, Clayton; Mr. E. Hutton, Pudsey.

HEN COOP.

We are not surprised that your ("T. F.") chickens do not thrive in the coop you describe. We recommend you to adopt the fol-

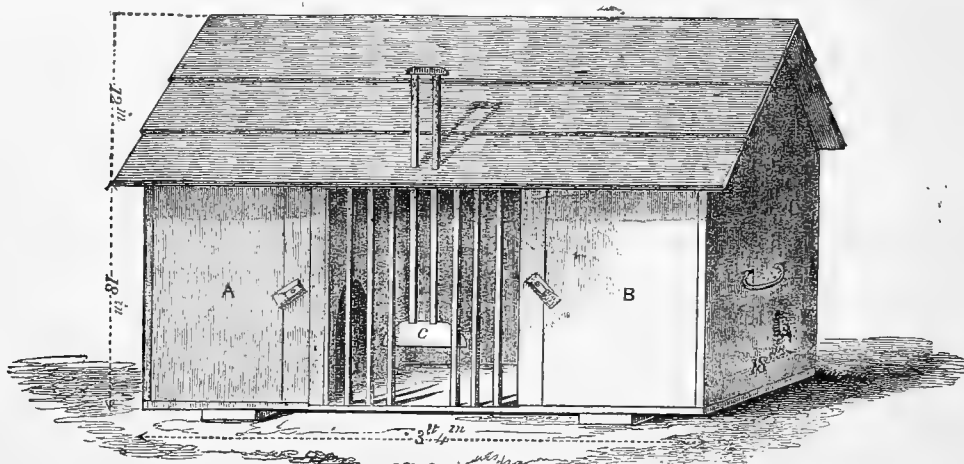


Fig. 11.—Part A is divided off from the rest of the coop by a partition, with a hole large enough for the hen to come in and out at pleasure. Part B is not divided off, and is only to put the food behind.

huge cannon, one of the very big guns of the world. Go down the Thames to a certain arsenal, and there you will find a great number of them, and they are called in playful fondness "Woolwich infants." This is English fun. The first fancier who had a very large Pigeon said to his visitors, "Now I want to show you a little Runt of a Pigeon I have imported or bred," and forthwith surprised them by throwing open the door of his loft and pointing in triumph to a very big bird, which big bird in time, from mockery or fun, took the name of Runt. This is my explanation. I am quite aware that learned people say the word Runt comes from the Italian *Tronfo*, in answer to which I say, Pooh, pooh! And being also learned I reply, Runt comes from the Dutch word "rond." Having now squared matters with my ideal learned opponent I go on comforted. That very large Pigeons in England called Runts came and come from the shores of the Mediterranean I believe—yes, and from India too; but Runt is a very old English word, and for fun a big Pigeon was first nicknamed a Runt, and then the name stuck to it. This is my solution of the difficulty.

I spoke of the contrast between Pouters and Tumblers, and that each was benefited by the contrast, one looking much better by the side of the other. Just as in one way Pouters and Tumblers are perfect contrasts, so are Pouters and Runts; but they are also alike, thus Pouters and Runts are the longest-bodied Pigeons and the longest-feathered Pigeons—that means that the flight feathers and tail feathers are the longest. Here ends the similarity. Now for the contrast. Pouters longest legs, Runts among the shortest; Pouters very slender, Runts very thickly built; Pouters perpendicular Pigeons, standing up, looking around—Runts horizontal Pigeons, with eyes to the earth; the one high up in the world, the other low down; one a noisy strong flier for a short distance, and active too—the other not wishing to fly at all, but, like fat heavy people, not liking exercise of any sort. Yet these two Pigeons are near relations. I have seen a great many Pouters, first cousins once removed to the thick short-legged Runts—yes, and bred

lowing. The advantage of this coop is that the hen can in rainy weather go into her sleeping house, A, where she is effectually sheltered from the weather, and the food for her and her chickens can be placed behind the door B (which is made to open and shut), and the other fowls cannot get at it, which is the case in other coops; but the coop can thus be left standing in the poultry yard with the other fowls. Besides, the second door, B, is used in cleaning the coop out. There is also a piece of wood which fits to the wire bars in front and reaches three-parts of the way up, so that at night when it is put up the hen is securely shut in, and sufficient space left for ventilation. Another advantage in this coop is, that if suddenly a shower comes on, you can without the least trouble drive the chickens in, push down the two sliding wires, c, and the chickens are in all safe with plenty of room to run about;—the shower over, the bars are pulled up.

PIGEONS—HINTS TO YOUNG AMATEURS.—No. 5.

RUNTS.

WHY are the biggest Pigeons in the world called Runts? Turn to the first dictionary at hand, and you will find the word Runt thus entered and explained:—"Runt, a small stunted animal." Now, there is always a vein of humour in Englishmen, and especially about anything very large. A father of a huge strapping son of 6 feet in his stockings pleases himself to call him "his little boy," and so often introduces him into company. Then there is a

them too. It is the old story of the man got up in the world and become an aristocrat, yet he has poor low relations somewhere. I found a poor man, a very poor man, in a cottage a few years since talking broad Wiltshire; very down in the world he, as his immediate ancestors had also been—a labourer, that's all, yet related distantly to a baronet of an old creation, and when the bart, was made acquainted with the fact he, much to his honour, helped the poor man, who somehow or other had his coat of arms lying by, but scarcely valued at all. So of our humble friend the Runt; he is a cousin of—not a baronet, but my lord Pouter, a very high and mighty gentleman indeed. 'Tis very odd, this relationship between the tallest and the flattest Pigeon—the one nearest to the ground, and the one furthest from it. The uses of the two are equally diverse. The Runt is the bird for the table—the biggest, and fullest, and fleshiest, the most piesome (to coin a word) of all Pigeons; but whoever thought of eating that aristocratic skeleton a Pouter? He carries no flesh—indeed he ought not to have any. "Long and lean" is his cut; his waist is to be, according to fanciers, of wedding ring proportion. Then the Runt, if not too highly or closely bred, is an excellent feeder of its young and nurse for other young; whereas Lady Pouter, like many great ladies, insists on that duty being done by some inferior. She always, as a rule, insists upon a wet nurse for her young ladies and gentlemen.

Next about the varieties of Runts. Some years ago—a good many; I remember several varieties—a huge, very huge, Runt was brought from London by a friend of mine and called a Roman Runt, which tried in vain to fly up from the ground with his other Pigeons. Then there was the Leghorn Runt that cocked up its tail and stuck out its breast, which, after having been lost sight of for long, has re-appeared at our shows under the name of Maltese or Florentine, and quite possibly they came from some Mediterranean port. Then there was the most common of all Runts, which in those days was called the Spanish Runt; plumage

usually white with patches of blue or chequer in its body. This seems to be the Runt of our shows of the present time; but, young amateur, you must understand that the show Runts are few because of the difficulty of breeding them. The giants of the world are few, and we never read of their going about with their gigantic families; but it is quite possible to breed a goodly number of, not show Runts, but still very large Pigeons, which are very fit indeed for food. These papers are written for the benefit of young amateurs, but not necessarily young in years, only in Pigeon knowledge.

I have known Runts find favour among middle-aged people who have retired from business, and who with their garden, friends, and newspaper, and a hobby or two, manage to get on comfortably. A competence made in trade, or an income left them, they take a house with a little garden near a town, and live on in an easy innocent way. The husband has usually a well-filled waistcoat and broad back; in fact he is a Runt in the Pigeon sense, and so takes to Runts. A little shed is big enough, and he may have his birds on the ground floor if no cats are to be feared. Now my comfortable, middle-aged, retired tradesman, at peace with all the world and everything in it save sometimes that last button of that capacious waistcoat of his, likes his dinner. It is a sign of middle age, no doubt it is; so therefore he likes, or would like, the Pigeon which would best supply him with a dinner, and he would like to get his birds as large as he could. Such a man should get hold of some Runts not up to show size, and also cross them with some other strain, picking them up in a bird shop or in the selling class; on no account getting them over-large, for rely upon it, if cheap, they are no breeders or very old. Sometimes at a farm or in some country place a very big Pigeon is to be picked up, a common farmyard Runt as it is called; and the result is, after a little time and some pleasant walks with an object (a great comfort to my retired friend) a nice lot of moderate-sized and good breeding Runts are to be got together, and some well-filled pigeon pies are the result. These birds, not being much of flyers, will not annoy neighbours, but live quietly at home. Really fine large birds walking about have a noble appearance. I own this fancy for Runts is not very high-class, but it is pleasant to be able to add to the family supply of food, in addition to the pleasure of seeing, tending, and mating the birds. They, like most large things, are kindly and do not fight; also tame, for they will let you slip your hand under them and look at egg or young without being angry.

For their quietness and gentleness I have known these medium-sized Runts kept as nurses for young Pouters, and they answer the purpose well, not being pugnacious like Dragons. Their table qualities also render them favourites with their fanciers' wives, and they let their husbands enjoy their Runt fancy in peace, because of the pies to be forthcoming. But mark, I warn all such who intend to breed for table to keep clear of all ideas of Runts of the show size or any approach to it. If such a bird falls in their way cross it with a large common Pigeon, and you will gain greatly by such a cross, as the common Pigeon is the best of all breeders.

The Runt fancier I have imagined may as he goes on get very pretty birds as well as profitable ones. Thus, driving up under the archway of an old-fashioned inn in a midland county I was—it was long since—much delighted to see a whole flock of White Runts quite at home in the square yard. No doubt they were kept for use in the first place, for pigeon-pie is a stock dish at an hotel, always welcome to guests, particularly to travellers from the great City, to whom it smacks of country life and scenes; but the birds must have been selected for the eye as well, as they were all white. I have seen large Birmingham Rollers which would not make a bad cross to get good table Runts; also I have seen the old-fashioned light-coloured Trumpeters that would answer well enough, for they are runtishly built, and any cross would add to the fertility of the Runt, providing at the same time for size. The table supply is, I think, too much neglected in both fancy Pigeons and fancy poultry, but there is no reason it should be. Utility has been much sought for in regard to Homing Pigeons, why not also breed for the table? Certainly the ordinary dovehouse bird is very small, and might easily be made larger by a cross with the Runt. I fear the Silver Runts so generally shown are all related, so I would not match two Silvers, not a pretty colour either, but get other colours, and crossing colours you would get variety, which is always pleasing. Indian corn does well for Runts, and I have seen them eat heartily of barleymeal and water made thick. I am quite sure a good and profitable Pigeon may be bred for the table, giving pleasure to the master and quite satisfying the careful provident housewife.—WILTSHIRE RECTOR.

VARIETIES.

THE harvest is advancing rapidly to maturity, and in the south a few early crops have been cut. In many places the crops are light, but in the well-farmed lands of Essex they are full and fine. In the great agricultural district of Lincolnshire and Yorkshire the grain fields have a splendid appearance. Wheat, barley,

and oats in the fens, and indeed wherever the soil is not light and shallow, give promise of abundant crops. The straw is more luxuriant than we have ever seen it, and the heads appear generally fine. The hay harvest in those districts has proved the best on record, and has been secured in fine condition.

— WE hear there is some chance of the poultry show in connection with the dairy show at the Agricultural Hall being this year on a much more extended scale than heretofore, under the patronage and direction of the Poultry Club.

— WE regret to learn that in some cases where extra prizes were awarded at the Paris Poultry Show they have not been paid in full according to the arrangement made between the French and English Jurymen. Remonstrance has been addressed to the authorities on the subject, and we have reason to know that if redress is not given a protest will be presented to the highest authority on the British Commission.

— OWING to the great heat and protracted drought the young turnip crops in Lincolnshire, where this crop is extensively grown, are suffering considerably. Potatoes, too, are flagging severely, and cannot form tubers for want of rain. This applies to the late crops in fields, early sorts in gardens giving a productive yield. The mangold wurtzel crops, especially those that had been sown early, are looking remarkably well, but rain is urgently needed to carry them on. The pastures are quite burnt up, and trees and hedges are white as a sheet with dust from the limestone roads.

— THE attendance at the Royal Show at Bristol on the last day of the Show numbered 30,012, against 31,935 at Liverpool and 61,567 at Birmingham. For the week the visitors at Bristol were 121,851, against 138,354 at Liverpool and 163,413 at Birmingham. The receipts were: Liverpool, £12,969; Birmingham, £12,485; Bristol, about £10,285. Thus Bristol falls below the two great towns in which the shows of 1876 and 1877 were held, but still gives a large and a profitable return.

— WATER FOR SHEEP.—What an unprofitable mistake it is to suppose that sheep do not require water. We invariably give them the opportunity of settling that question for themselves, and it is surprising to see how much they drink, especially milk-giving ewes, and also all sheep when eating cake, meal, &c., in addition to their green food. I attribute my trifling loss in sheep and lambs to their having constant access to water by means of an iron tank watercart (Croskill's) which I have used for thirty odd years.—J. J. MECHI (in *Mark Lane Express*).

ADVANTAGES OF THE STEWARTON SYSTEM OF SUPERING.

THERE are several obvious advantages in placing empty supers upon the top of those which are already occupied, which have already been pointed out in former numbers of the *Journal of Horticulture* both by "A RENFREWSHIRE BEE-KEEPER" and myself. Upon the old plan of inserting fresh supers between the stock and those previously occupied you have bees constantly making fresh comb immediately over the stock, and the super is always in danger of invasion by the queen, who, if she chances to find her way into it, is almost certain to find empty cells (especially if there has been a check in honey-gathering) which she at once proceeds to fill with eggs. This very rarely occurs upon the Stewarton plan. Stewarton supers are shallow and the combs broad. The bees first begin to construct their combs in the box next to the stock hive, and then gradually extend their operations into the upper chambers, sealing and completing in the first place the lower supers. If a good start has been made you have this immense advantage, that if the queen enters the super, finding all the cells already occupied with honey, she speedily returns into the stock hive, and all future supers are almost absolutely secure from invasion, as the new combs are always constructed in the upper compartments.

My experience is that upon the old plan it was the exception to secure a super perfectly sealed and free from all trace of brood and pollen. With the Stewarton system my supers have been almost invariably free from all impurity; and the honey boxes next the stock, from two to six in number, have been completely sealed, almost to the last cell. As a matter of course the top supers are never completed, as it is always necessary to allow the bees plenty of room in advance of their actual requirements to accommodate the bees and prevent swarming. As the lower supers are completed it is best to remove them, and bring down the pile of boxes in course of progress on to the top of the stock.—J. E. BRISCOE, *Albrighton, Wolverhampton*.

SUFFOCATION OF BEES.

A LADY who calls herself "a bee-wife," has six stock hives and six swarms from them, all in straw hives of an ancient pattern and of rustic appearance, wants to know how she can avoid stifling the bees at the end of the season. We are pleased to tell

this lady that there is something better for her bees than the fumes of sulphur. There is a pleasant and satisfactory way of taking honey without the destruction of bee life. Some young and inexperienced bee-keepers are easily influenced by whims and novelties. Many of them are men of keen sympathies and philanthropic aims, but their emotions ripen into fruit too quickly, and are seldom found in a mature condition. They have a notion that their hives and system of management are far in advance of all others, and that straw hives and the destruction of bees by stifling are inseparably connected, and this notion they want to see carried, like thistledown before the wind, over the nation.

My opinion and experience oppose this notion, and I have no hesitation in telling this lady and all whom it may concern that she and they may have apiaries of straw hives second to none for beauty, convenience, and success, and that honey of the highest quality may be obtained from them without the destruction of bees. Nay, I hold that bees are more easily taken from straw hives than from other kinds. If our correspondent will follow my advice and practice she will get the honey from the old hives and put the bees in new and modern habitations. Hives containing about 2000 cubic inches of space should be provided with suitable boards, and when it is deemed desirable to take the honey the bees should be driven from the old hives and placed in the new ones.

In driving bees the smoke of fustian or corduroy is first blown into the hive (beginning with one at a time), then turn the hive upside down and place one about the same size over it, and roll a tablecloth round the junction to keep the bees inside. As soon as this is done the drumming on the sides of the bottom hives commences, and this drumming so confounds the bees that they run upwards, as for their lives, into the empty hive. In about fifteen or twenty minutes the bees are in the top hive, and should be placed on the spot where the old one stood. If it be the wish of the owner to introduce wooden or square hives the bees driven should be shaken into them as soon as they are driven.

All this is easily done, though to the beginner it seems a formidable task and undertaking. Everything connected with bee-management appears wonderful and difficult to uninformed beginners, and this lady correspondent will soon become an adept in the art of manipulating hives and bees if she begin and act as I have suggested. If the season for honey be over when the bees are put into empty hives they should be liberally fed, and of course if two driven swarms be united in one hive she will get three stocks only out of six swarms, but they will be better and stronger in pairs than if fed into stocks separately. As the hives are ancient we presume they are small, and therefore that it is advisable to unite them after they are driven. If the six swarms be all the stocks required the bees of the old ones could be united to them at harvest time. If honey be wanted from one or more of the swarm hives the bees should be driven as suggested for the old hives. The combs in the swarm hives are young and sweet, and the honey in them would be more easily taken than that in the old black combs. The aim of bee-keepers should be to have an apiary of large hives well stored with bees and food in autumn if great results are to be looked for in the year following.—A. PETTIGREW.

OUR LETTER BOX.

WHITE CHICKENS FROM BLACK HENS (C).—It is by no means uncommon to find white sports in black-feathered fowls. Spanish seem to delight in it. All black cocks are prone to throw red or yellow feathers, as Polands, Black Cochins, Crève-Cœurs. Spanish hens constantly moult white feathers, sometimes being splashed all over, sometimes becoming quite white. We therefore cannot see why their cousins the Minorcas may not do the same. It does not, however, render them more valuable. Quite the reverse—they are valueless. Persevering amateurs in times gone by produced white Spanish cocks and hens, but they found no admirers. The striking contrast between the black plumage and the white face was lost when the plumage itself became white.

REMOVING BEES (W. W.).—There will be great risk in removing your bees 300 yards from their present position across several gardens, for many of the bees would go back. As you are bound to remove your hives from their present stand, we advise you to remove them to some cottage garden or plantation three miles distant for a month; then bring them back to your new garden. About the beginning of August you should drive your bees into better hives and do as you propose—viz., "feed them into stocks." If you cannot conveniently remove the hives to a distance of three miles for the time being, drive them into the new hives at once and place them in the new position before they begin to work, for when bees leave a new hive for the first time they look well about them. If you act thus all the hives should be driven on an evening and the bees placed in the new garden an hour or two afterwards. On removing the bees obliterate the old stands completely, and let nothing of the old hives or coverings be seen near.

BEE HIVES (A Constant Reader).—Write to Messrs. Neighbour, Holborn, London.

DRIVING BEES (Fairfield).—In advice given to other correspondents you will find the process of driving explained, and shortly we shall explain the process of taking honey and wax.

UNSWARMED HIVE (Inquirer).—Your hive should be driven now, either by taking a swarm from it or by turning all the bees into an empty hive. First take the super off and put a lid on the crown hole, then turn the

wart on its crown (at a little distance from the stand) and place an empty hive on and over it, rolling a cloth round the junction. If you decide to take a swarm only drum for four minutes, then unroll the cloth and place the swarm on the board of the old hive and the old one on another board, which should be placed a few feet to the right or left of the old place. Twenty-one days after this has been done the bees in the old hive will have hatched all the brood in it, besides rearing a queen for themselves, and may be driven into an empty hive. You will thus get both a super of honey-comb, probably not quite full, and the old of honey, with two swarms which you must feed into stocks. If you do not want two stocks, the second swarm, which we call a turn-out, could be united to the first one. The other way is to drive all the bees from the stock into an empty hive at once, sacrifice the brood, and take the honey at the same time. If you do so you must drum on the bottom hive for twenty minutes or thereabouts. The first plan is the most eligible, and which is often carried out in our own practice. In all such operations we use plenty of smoke from fustian rags and seldom get stung.

WARTS ON COWS' TEATS (A Lady).—If the warts are only dry and hard they may be got rid of by a ligature round their bases of strong silk thread; should they be bleeding warts and accompanied by slight ulceration or soreness, a strong lotion made of alum in powder with vinegar added should be applied immediately after every milking. We have known cases where the animals have been so subject to warts that they will continue to come in spite of any remedy; it is then better to sell the cow at once, or dry her off her milk and feed her for beef.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.					Rain.
	Barom- eter at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass		
1878.	Inches.	deg.	deg.	W.	deg.	deg.	deg.	deg.	deg.	In.	
July.				N.W.							
We. 17	30.311	71.7	64.3	N.W.	63.9	83.4	55.7	125.9	52.0	—	
Th. 18	30.333	74.9	66.6	N.W.	68.0	85.4	60.3	133.7	55.7	—	
Fri. 19	30.291	75.1	69.4	N.W.	67.2	86.2	62.5	129.0	59.1	—	
Sat. 20	30.155	74.9	66.3	N.W.	67.4	83.0	57.8	133.2	54.6	—	
Sun. 21	30.029	72.8	66.4	N.	67.8	83.5	59.6	128.1	55.8	—	
Mo. 22	29.981	72.4	66.9	N.	68.2	81.5	59.6	131.7	56.4	—	
Tu. 23	29.998	67.3	60.6	N.E.	68.2	77.7	60.6	119.6	62.1	—	
Means	30.157	72.9	65.9		67.0	83.0	59.4	129.0	56.5	—	

REMARKS.

- 17th.—Fine sunny hot day.
18th.—Bright sunny morning, heavy clouds in afternoon, very warm day; beautiful evening.
19th.—Hot morning, little cloudy at times; very fine evening.
20th.—Very fine hot day, rather more wind; beautiful starlight night.
21st.—Beautiful day, bright and hot, rather windy and dusty; calm fine evening.
22nd.—Fine bright morning, overcast from 1 P.M., and very slight shower 1.30, not measurable; beautiful evening.
23rd.—Very dull and cloudy morning, sunny and bright with thunder in afternoon, which was louder in evening. Lightning five miles distant at 8.18 P.M.

A very warm week. The average daily maximum temperature in shade has been 83°, or 10.3° higher than in the previous week, but like it without measurable rainfall.—G. J. SYMONS.

COVENT GARDEN MARKET.—JULY 24.

THE great bulk of soft fruit has now passed through our market, Cherries and Strawberries being nearly over, as also Black Currants and Raspberries. With a fair crop generally prices have ruled good and must have well remunerated the growers. All hothouse fruit is lower.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½	sieve	0	0to0 0	Melons.....	each	4	0to10 0	
Apricots.....	dozen	1	0	3 0	Nectarines.....	dozen	4	0 12 0	
Cherries.....	½	lb	0	6 1 6	Oranges.....	½	100	8 0 16 0	
Chestnuts.....	bushel	10	0	20 0	Peaches.....	dozen	2	0 12 0	
Currents.....	½	sieve	3	6 4	Pears, kitchen..	dozen	0	0 0 0	
Black.....	½	sieve	6	0 6 6	dessert.....	dozen	0	0 0 0	
Figs.....	dozen	6	0	12 0	Pine Apples....	½	lb.	3 0 6 0	
Filberts.....	½	lb.	0	0 0 0	Piums.....	½	sieve	0 0 0 0	
Cobs.....	½	lb.	0	0 0 0	Raspberries....	½	lb.	0 6 1 0	
Gooseberries..	quart	0	6	0 9	Strawberries..	½	lb.	0 6 1 0	
Grapes, hothouse	½	lb	1	0 6 0	Walnuts.....	bushel	5	0 8 0	
Lemons.....	½	100	6	0 10 0	ditto.....	½	100	0 0 0 0	

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	dozen	2	0	4 0	Mushrooms....	pottle	1	6to2 0	
Asparagus.....	bundle	2	0	6 0	Mustard & Cress	punnet	0	2 0 4	
Beans, Kidney forced	½	lb	0	6 1 0	Onions.....	bushel	2	6 3 0	
Beet, Red.....	dozen	1	6	3 0	pickling.....	quart	0	4 0 6	
Broccoli.....	bundle	0	9	1 6	Parsley..... doz.	bunches	2	0 0 0	
Brussels Sprouts	½	sieve	0	0 0 0	Parsnips.....	dozen	0	0 6 0	
Cabbage.....	dozen	1	0	2 0	Pears.....	quart	0	9 1 0	
Carrots.....	bunch	0	6	0 9	Potatoes.....	bushel	3	6 7 0	
Capsicums.....	½	100	1	6 2 0	Kidney.....	bushel	5	0 7 0	
Cauliflowers....	dozen	3	0	6 0	Radishes.. doz.	bunches	1	0 1 6	
Celery.....	bundle	1	6	2 0	Rhubarb.....	bundle	0	6 0 9	
Coleworts.. doz.	bunches	2	0	4 0	Salsafy.....	bundle	0	9 1 0	
Cucumbers....	each	0	4	1 0	Scorzoner.....	bundle	1	0 0 0	
Endive.....	dozen	1	0	2 0	Shallots.....	basket	0	0 0 0	
Fennel.....	dozen	1	0	3 0	Shallots.....	½	lb	0 3 4 0	
Garlic.....	½	lb.	0	6 0 0	Spinach.....	bushel	2	6 0 0	
Herbs.....	bunch	0	2	0 0	Turnips.....	bunch	0	6 0 9	
Leeks.....	bunch	0	2	0 4	Veg. Marrows..	each	0	4 0 6	
Lettuce.....	dozen	1	0	2 0					

WEEKLY CALENDAR.

Day of Month	Day of Week	AUGUST 1—7, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.			
1	TH		76.1	50.9	63.5	4 25	7 47	7 49	8 39					3	6 6	213
2	F		70.6	52.0	64.0	4 27	7 45	9 16	8 54					4	6 2	214
3	S	Southampton and Otley Shows.	74.9	50.9	62.9	4 28	7 44	10 43	9 10					5	5 57	215
4	SUN	7 SUNDAY AFTER TRINITY.	75.7	51.3	63.5	4 30	7 40	0 a 10	9 28					6	5 52	216
5	M	Bank Holiday.	74.0	51.4	62.7	4 31	7 38	1 37	9 50					7	5 47	217
6	TU	Royal Horticultural Society—Fruit and Floral Com-	72.9	51.1	62.0	4 33	7 37	3 1	10 23					8	5 40	218
7	W	[mittees at 11 A.M.	74.4	50.8	62.6	4 34	7 35	4 17	11 7					9	5 34	219

From observations taken near London during forty-three years, the average day temperature of the week is 74.1°; and its night temperature 51.2°.

THE VENTILATION OF GLASS HOUSES.



Is the ventilation of our glass houses capable of modification? This is a question that has exercised my mind for some time, and the conclusion at which I have arrived is decidedly that it is. The matter is one of considerable importance, for the cost of ventilators and apparatus for opening and shutting them forms a serious item in the total cost of such buildings.

Nothing tends more to prove the general prevalence of a vague indistinct apprehension of the philosophy of ventilation than the various ways in which openings are made in the sides and roofs of buildings for the admission of air. One builder has a system of ridge ventilation consisting of a fixed elevated glazed ridge with flaps to open and shut; another has a ridge which can be raised and lowered at will; another has flaps along the roof; then there are flaps opening across the roof; sliding sashes, shutters in backs, walls, and openings in the ends of roofs, with various other contrivances which I need not enumerate; nor need I dwell upon the form of side ventilators, which range from wooden shutters up to costly contrivances for heating the air as it enters the house.

That plants growing under glass require fresh air all will admit, but very diverse opinions exist as to the manner in which it should be given them, and it is this of which I complain. A matter of such importance ought not to rest upon mere opinion, but should be reduced to simplicity by the test of cause and effect; for it is undoubtedly subject to the influence of natural laws, and we have only to find out what these are in order to arrive at a clear understanding of what is necessary to be done and how to do it. Let us do so. Open the ventilators along the top of a glass house, and the interior air, buoyant from warmth, rushes forth and is replaced by the fresh air from without, which may instantly be felt as it flows in, spreads to every part of the bottom of the building, becomes warm, rises, and escapes. We thus have perfect circulation, for the simple reason that heated air becomes so buoyant that it rises and the vacuum is instantly filled with the cold air which it displaces, proving the truth of the axiom that "heat is motion," and affording a capital illustration of the cause of wind for youthful students of natural philosophy.

This buoyancy of heated air enables us also to impart motion to the atmosphere of glass houses without opening a single ventilator, for by making warm the heating apparatus we cause the adjacent air to ascend to the glass roof, where it becomes chilled and falls downwards again, setting the whole volume of air in motion, so that during the prevalence of a cold cutting north-easter our tender exotics may be made to enjoy the benefit of warm air currents without the slightest exposure to the baneful effects of biting frost-laden draughts. To set this fact as clearly as possible before the readers I will tell how it first of all arrested my attention. I sat writing on an autumnal evening at a table close by a window wide and high, so high that it ran from near the floor to the ceiling

of the room, which was unusually lofty. The evening grew so cold as darkness crept on that a fire was lit in a grate immediately opposite the window; the door of the room was shut, and in a few minutes I became sensible of a cold current of air rushing downward upon my head, and which was so violent as to soon set me sneezing. I removed to the centre of the room and thus avoided the direct draught, which a little thought showed me arse from the air near the fire being warmed and made buoyant. It ascended to and along the ceiling, became cooled by contact with the upper part of the window, and instantly rushed downwards like an actual draught.

We thus find that by the agency of heat we impart motion to the air, and that by opening sashes at the highest part of a glass house we get rid of all vitiated air and afford the plants the benefit of a perfect circulation of fresh air. Such being the case, of what practical value are side or front ventilators? Surely in applying them to every form of glass house as has hitherto been done we have been wrong; and I submit that it is time this repetition of a costly blunder should cease. Let us only take care to make a large opening from end to end of the top of a range, whether it be for the culture of fruit or flowers, and the remainder of the building may remain intact. I say a large opening advisedly, because I have had repeated proof of the evils arising from the narrow openings now so prevalent.

It is unlikely that such a step out of the beaten track made hard by time and custom will pass unchallenged; I may therefore add that this is no mere theoretical idea, but is a sound and sure deduction from practical experience which I commend to the attention of every gardener whose undoubted duty and interest it is to reduce the cost of such buildings by every means in his power. Horticultural builders also will not be slow to introduce an improvement that is so much calculated to cheapen, and therefore to extend, the building of glass houses.—EDWD. LUCKHURST.

NORTH WALLS.

QUESTIONS are often asked of the Editors concerning what will do on north walls, and in our country rambles we so often see them unsightly and little used that I think it may be good to consider separately what may be done with them. First we will take the strictly useful part of the question, and look over the catalogue of fruits; then the more ornamental may follow; but it is impossible to keep the two entirely separate, for nothing can be more ornamental than fruit trees well stocked with bloom or fruit, and nothing can be more useful in such an establishment as I have to cater for than a wall covered with flowers fit for house decoration. More fruits will flourish in a northern aspect than is generally imagined, and in the southern parts of the kingdom some of them are better grown in such a position than they would be on a south wall.

The Morello Cherry, of course, stands first on the list, but May Duke and most of the early Cherries will do exceedingly well. Of Morellos, however, there never seem to be too many, and they always fetch a good price. A

fair-sized tree against a cottage will often pay a year's rent, and in addition to the paying part of the question it affords the prettiest clothing a cottage can possibly have. They need little attention in the way of pruning and training—indeed, they generally get too much, summer pruning and training being quite a superfluity unless the trees are growing very vigorously. From the middle of October to the middle of December is the best time to give them their pruning, and this consists in merely cutting out the weakest wood and that which has borne heavily. If insects have been troublesome, and there is any danger of their lurking in the shreds and crevices, it is best to unvail the trees entirely, so that the wall can be syringed or painted as well as the trees with something to make sure work of the enemy, bunching the branches up and slinging them to the wall or to stakes driven firmly into the ground. Nailing may be done at any time before the flowers expand provided the branches are not tied up too closely, but pruning should always be completed before Christmas. The most difficult as well as one of the most important things in Morello culture is the disbudding, and this, perhaps, had better stand over till the time comes round for it; for the present it must suffice to say that all misplaced shoots and those which are not likely to be wanted for succession are to be picked carefully off as soon as they are large enough to get hold of, while those which are left are allowed to grow in their natural manner till the following pruning time, when there is no difficulty in fitting them to their proper places. This mode of culture may not suit those who think more of trees trained in some fanciful form than they do of a crop of fruit, but as regards fruit-producing it is quite successful. Black aphids used to be a terrible plague to us before the days of duty-free ground tobacco, but a taste of this on any affected shoot soon makes clean work.

Some of the Plums I have proved to do exceedingly well on a north wall, and there are doubtless many others which would do equally well. Those I recommend from experience are Victoria, White Magnum Bonum, Golden Drop, Orleans, and Blue Perdrigon. I also recommend for trial in the same position Jefferson's, Cooper's Large, Impératrice, Mirabelle, and some of Mr. Rivers's early kinds. Marie Louise Pear is said by some people to do well in a northern aspect, and is worth trial. Of Currants, White Dutch and Red Grape are, I think, the best; and of Gooseberries Warrington and Red Champagne.

And here I must utter a word of caution to those who contemplate following the Longleaf plan of fitting up permanent netting for the preservation of Gooseberries and other fruits, and ask them to take a lesson from my partial failure. It is quite as necessary here to protect the buds in winter as it is the fruit in autumn, and I took fully into account that we should have extra labour in looking after the ordinary Gooseberry caterpillar when the birds were excluded. This was carefully attended to, and an almost clean sweep was made of the variegated host; but another enemy clothed in emerald has stolen in unawares, and a large portion of the trees became leafless in two days. The fly which produced this is not so large as that which produces the ordinary Gooseberry caterpillar. Of course I was not aware of the existence of this pest or I should have taken means for its eradication during winter. In future, however, if I build a Gooseberry house the roof will be moveable, to be taken off after the buds have started growing and replaced when the fruit is approaching the ripening stage, thus protecting from bud and fruit-eaters, and allowing our friends the insect-feeders to help us as they are always anxious to do. I enclose specimens of my new enemy in three stages, as well as two ordinary Gooseberry caterpillars.—W. TAYLOR.

[The larger specimens sent with the enclosed are only larvæ of the Gooseberry Sawfly (*Nematus Grossulariæ*), perhaps rather paler than the usual type. The small cocoons accompanying appear to be those of an ichneumonidean parasite that has been attacking the Sawfly larvæ. The latter not unfrequently defoliate the bushes in June or July, and the eggs ought to be looked after at an earlier period of the season. Shaking the bushes or hand-picking is the only remedy now. —J. R. S. C.]

DISBUDDING ROSES.

I HAVE already said something, but I wish to put in a distinct plea against the present practice of disbudding Roses.

Since the Rose show month my Roses have been doing exactly as they liked. They have been distinctly let alone, and the

result is to confirm me in my previous opinion—how much many lose by being shown without their buds; no doubt we obtain them larger, but in how very many instances the character of the class is entirely destroyed! I have before me a most lovely Marquise de Castellane with four buds; it might be a little small for "the box," but it is much nearer to perfection after its kind, and I incline to think that the foliage surrounding comes also broader and more profuse where the habit is not interfered with. This most remarkable season, in my case a perfect second season of blossom at the end of July, gives an opportunity of observing which the industrious exhibitor seldom obtains.

I am almost prepared to advocate forbidding all disbudding. Let as many little side blooms go as you please, but I would not have the three or four left on the exhibition bush at all interfered with. The sorts which have no buds can be as big as they please. With such a character as Paul Neyron, a large small family will really be found acting as a sort of wholesome check upon him. If this be thought impracticable could not our rulers of the National establish one class for Roses that have never been tampered with? Such are my sentiments. As an Irish poet remarked in his own day:—

"Lesbia wears a robe of gold,
But all so tight the nymph has laced it,
Not a charm of beauty's mould
Presumes to stay where Nature placed it!
Oh! my Norah's robe for me,
That floats as wild as mountain breezes,
Leaving every feature free
To rise or fall as Nature pleases!"

—A. C.

NOTES ON POTATOES.

OWING to the singular absence of frosts in late spring early Potatoes, which are so often injured in their early stages of growth, grew on comparatively unchecked. The rains of May and early June succeeding rendered the growth generally strong, and the heat and drought of July has accelerated the ripening of the tubers. I have never had, nor remember having seen, more satisfactory crops of early varieties than are now being dug for daily use. Although the haulm is still comparatively green the tubers, in consequence of the drought, are of superior quality, and they are as yet untainted with disease.

It is of the greatest importance that the crops now sound and good should be kept so, and so far as I know—and I have made many experiments—there is only one way of doing it, and that is by digging them up and storing them carefully.

Of late years the rule in regard to weather changes has been the setting-in of distinctly marked periods of intense heat and drought extending over several weeks, and then, as if Nature was affording compensation, a term has followed of incessant and protracted rains. Already we have had an example of these extreme changes. We had the rainy period of May, followed by the drought period of July. Rain is again due. It may come quickly, even before these notes are printed, and it may be both heavy and long-continued. In that case the early Potatoes if left in the ground will be much injured—it may be ruined. Even if they are not overtaken with the murrain they will commence growing again (supertuberating), and the produce will lose much of its present high value. Within a week from the date of writing (July 25th) I shall not, weather permitting, have a single root of early Potatoes left in the ground. Wherever I find the tubers have about attained their full size they will be taken up, even if their skins are not firmly set, and if the foliage is yet unwithered. All the varieties of Ashleaf are ready for lifting, as also are some of the earlier of the American sorts. The tubers will be spread as thinly as circumstances permit in a dark place—as dark as pitch for those intended for cooking purposes, but those for planting will not be injured by having some light, but exposing them at once to the sun I have found more injurious than beneficial. By a little forethought and scheming shelter can mostly be improvised for the tubers, which in the case of the earliest sorts seldom amount to many sacks, and they are at least as worthy of extra effort and special care as is often exercised in wintering scarlet Geraniums. The safety of digging-up Potatoes before they are thoroughly matured has been strongly advocated in your pages by Messrs. Luckhurst, Wright, "A NORTHERN GARDENER," and others, and many years of experience warrant me in confirming what has been published as to the excellency and usefulness of the practice then and now recommended.

Although the disease has not yet manifested itself to any

great extent, yet the second early and midseason varieties are in extreme jeopardy. The tubers are about half grown, and in that state are extremely susceptible of injury when protracted rains occur after a long term of hot dry weather. Nothing that I am aware of can be done to save them; they must take their chance, but the moment the tubers are large enough for use up they should come. Late sorts are much more safe. They have not, at least in the midland and northern counties (I cannot answer for the south), yet formed their tubers on account of the intense heat and drought, and as soon as a rainy period sets in the crops will grow on without supertuberating, and without, at least for some weeks to come, being overtaken by disease.—AN OLD GROWER.

THE SETTING-UP OF GRAPES FOR EXHIBITION.

RULES made which afterwards are allowed by those who framed them to be broken with impunity place their sponsors in much the same somewhat unpleasant position the grower of fruit is placed in when not allowed to exhibit his fruit to the best advantage his taste, or it may be his ingenuity, devises.

A visit to the Royal Horticultural Show lately held at Preston and what I saw of the way Grapes were exhibited there, a later visit to the Newcastle-upon-Tyne Show and requisitions that I saw made there, and the perusal of the rules of the Durham Show which is still to be held, are my reasons for the present article.

Uniformity without stiffness I have no objection to, and I am so far in favour of evenly displayed fruit that I would appreciate the motives of any committee that gave the description of any particular stand, or the height of any stand at front or back, to secure uniformity; but such foolish requirements as demanding Grapes to be laid on nearly flat stands, and in some instances even demanding that they be exhibited on plates, are requisitions that I demur to—in fact, I feel pretty much inclined to join a rebellion against them. At Preston a special footnote in the schedule stipulated that Grapes must be exhibited on stands 8 inches high at the back. A friend, Mr. McConochie, after setting up his exhibits, happening to lend me his schedule I at once detected the instructions given and reminded him that his stands were 4 inches too high. After thanking me for drawing his attention, he not having previously noticed the rule, his next thoughts were how to alter his stands with the Grapes upon them to comply. Being somewhat of an adept at the joiner's craft, this to your correspondent was a difficulty easily overcome, but most certainly at the expense of having his Grapes less advantageously exhibited—his Black Hamburgs, being very ripe, afterwards fell flat. Some others had complied with the rule and some had not complied, and perhaps there were some "out of it" who did not care to comply. At the last moment Mr. Coleman, the lion of the day, set up with stands quite 12 inches high and was awarded first prize. There was some talk of an objection, and which was not an unreasonable one, but as I had to leave I know nothing further of the matter, and have nothing more to say, save that the requisition did not admit of Grapes being set up to the best advantage, and that I am glad Mr. Coleman evidenced a commendable spirit by disdaining to have his extremely well-grown fruit that had cost him so much care insulted by, I might reasonably describe, being laid flat on the table.

At the Newcastle Show the rules, I believe, make no stipulation, but notwithstanding some members of the Committee ordered the fruit to be taken off the stands and to be laid flat upon plates. A nice predicament this a gardener to find himself in, and especially one who, perhaps, only finds himself justified in taking a sufficient number of bunches from his stock that are necessary to set up at one show, and yet who has arranged to exhibit at some three or four. Such requirements submit the exhibitor to an unnecessary injustice, unnecessarily militate against his successfully competing where he has every right to compete, and with the same produce.

Just a passing word regarding the Durham schedule. This Show does not receive the patronage it deserves; the Durham people do not subscribe so liberally as they ought to do. But it is the rules I am criticising. Fruit I find must be exhibited on plates, and at Durham you must find your own plates. The next thing, I suppose, shall be—exhibitors will have to be followed to the exhibition with a retinue of potters, or perhaps a camp of gypsies, as, before making their purchases exhibitors will have to learn of the committee whether their taste goes in for brown or for white ware. If you want uni-

formity, if you want taste, if you want exhibitors to set up their fruit and other produce in a way which will delight the public to come and see it, add this clause to your schedule and you will succeed:—Of all exhibits, where other merits are considered equal, the judges are desired to give the casting vote in favour of the most tastefully arranged; then at our exhibitions we shall have examples of better taste, and consequently more attractive displays.—J. WITHERSPOON.

HEREFORD ROSE SHOW.

IN answer to "A LOVER OF ROSE SHOWS," and now that the pressure on your space is not so great, perhaps the following remarks may not be unacceptable.

The Judges who adjudicated on the amateur classes were the brothers Gater, and two more excellent Judges it would be impossible to find in England. One is (for the information of those not acquainted with them) the Rose foreman to Mr. George Paul, the other holds the same position in the establishment of Mr. Charles Turner. We had therefore two men whose whole time is devoted to the cultivation of Roses, and who from long experience and the constant supervision of Roses know perhaps as much about them as any other two men to be found.

As to my remarks, quoted by "A LOVER OF ROSE SHOWS" in the paragraph immediately preceding the one in which he so kindly speaks of me, I must freely own that before the judging commenced I felt confident that Mr. Jowitt would win the prize. I formed this opinion from the points enumerated by your correspondent—viz., evenness, more Teas, and greater diversity of colour; and I can well imagine that other judges would have reversed the decision if appealed to; but the Judges on this occasion went to work evidently upon the rule of counting points. And here Mr. Baker won; for some of his blooms were magnificent—blooms not only above the average, but such as are rarely seen. When, then, the weak blooms in his stand were counted they only reduced the sum of his number of points by a mere fraction. Mr. Jowitt's blooms were all good, but perhaps he had more mediocre blooms than those which could be called superb. But certainly he had no tail, while Mr. Baker had a very decided one. The matter was simply resolved to an addition sum, and here Mr. Baker obtained the highest numbers and won.

During the day the judgment naturally attracted considerable attention, and several of the best judges went very carefully through both stands, but on the whole their conclusions coincided with that of the Judges. "I think it is right," was Mr. Cranston's remark; while a distinguished amateur, who is, I believe, the President of the Society, said, "Well, I hardly know, it was so very close. I am only glad I was not a judge." I mention all this for the sake of showing "A LOVER OF ROSE SHOWS" how close the contest was. If Madame Charles Wood had stayed at Heavitree and Capitaine Christy wooed her there instead of shedding tears over her at the Shire-Hall, then there would have been no question about the matter, for Mr. Baker would have been undoubtedly first; but the eye of the connoisseur would keep ranging up to that unfortunate couple in the back row of the second box, and then turning to his great rival's box, which was placed next to it, looked in vain for so bad a flower. Such are my impressions, and as both competitors are dear and valued friends of my own I can state them, I hope, without fear of offending either.

Your correspondent will observe if he turns to the rules printed in last week's Journal that points are recommended in case of a close contest—three points to the best blooms, two for mediums, and one for those not bad enough to be cut out, and an extra point for a very superior bloom. On this principle I believe the Judges acted at Hereford, and there can be no fairer and better way of judging.

Now, in conclusion, may I say a word about the forthcoming Rose election? I have refrained hitherto from saying anything about the last for fear of giving offence, and also thinking that it would be the last of those which had reference to exhibition blooms; but now that there is to be another election I must have my say.

To make this election any guide of value or use to the leading exhibitors more care must be taken in the selection of the electors.

I wish to mention no names, but I am sure electors sent in lists last year who had no qualification. As an instance of this I may mention the following as a proof that no care was taken to find out the qualifications of an elector. I happened

to write you an article upon disbudding and mentioned the case of a very successful grower of garden Roses who did not disbud at all. My neighbour never exhibited a Rose in his life, except at the small show held in his own grounds; yet directly his name appeared in the Journal Mr. Hinton sent him a form of election. This was sent on to me with a request that I would explain what it meant. Now if this style of things is to be followed again, what guide will the list be? Let the returning officer not accept a list without knowing the elector's qualification.

If he asks me how he is to do this, I answer, In the easiest possible manner. Let him write a letter to the Rev. Honywood D'Ombrian and ask him to furnish him with a list of the successful exhibitors at the two National exhibitions this year and last; and also write to the Rev. C. Bulmer, Credenhill Rectory, Hereford, for one of those at Hereford; and to the Secretary of the Alexandra Palace also. Then from these and other lists obtained on the same principle collect the names, send polling papers only to those, and a list of some value will be formed: if he does not, the result will be, what I do not hesitate to declare last year's was, "a delusion, mockery, and a snare." With this conclusion I need hardly sign my name, but it is—WYLD SAVAGE.

SEASONABLE NOTES ON KITCHEN GARDEN SOWING.

THESE notes appearing in the Journal on the 1st of August will just be in time to remind many of your readers of some particular kitchen garden seed-sowing which should be done about that time. In northern parts Cabbage seed, for producing plants that will come early into use next spring, will have been sown a week or two ago; but it may be well to remind them, especially those who have neglected to sow, that it is not yet too late to do so, but it very soon will be if early plants and early produce are desired. Even those who have sown some weeks ago will do well to make another sowing now, because if the autumn should be mild and the winter open many of the first sowing may bolt in spring before hearting, and it is always wise to have a reserve in hand. At the present time the seed should be sown in rich ground and an open situation. When the largest of the plants are fit for transplanting they may be drawn, and of those left standing in little crowds the best way is to take them up also and dibble them into a fresh piece of ground 3 or 4 inches apart.

After Cabbage I think winter Turnips come next in importance. Sweet, fresh, small roots of these are very acceptable throughout the winter, but I do not think that many amateurs or cottagers understand this, or they would grow them more frequently than they do. Any kind of ground that has been used for early crops and is now cleared will do for Turnips. If it is hard on the surface, break it with the fork; if loose, only level it with the spade or rake, and sow the seed in drills 18 inches apart. A good patch sown now will supply bulbs from November until April. The plants must not be left too close together, as they do not bulb well when crowded.

Onions of the Tripoli section should also be sown early in August. They may be sown from the first day until the middle of the month either in drills a foot apart or broadcast, and in a sheltered but not shaded position. The seed should be sown very thin, as if the plants come up 1 or 2 inches apart they are quite close enough to stand the winter.

Winter Spinach is another useful vegetable that should be sown now and during the month. We grow it in rows 1½ foot apart, and it is generally sown on ground that has been newly cleared of Potatoes. This vegetable is often considered a delicacy with many, but it is indispensable where many varieties of vegetables are wanted in winter.

Where salading is appreciated in winter a good breadth of Lettuce and Endive should now be sown. Of course no one will keep ground empty throughout the summer waiting for this or other crops that are sown at this time, but let them follow Cauliflower, Peas, Potatoes, &c. We draw drills 1 foot apart and drop a few seeds in every foot, and when the young plants come up they are all drawn out but one in each cluster, which is left to form the crop. When they are thinned in damp weather those drawn out may be transplanted into other ground.

A small sowing of Cauliflower may now be made, and another in a fortnight or so to furnish plants for supplying the earliest heads next year.

It is not too late to sow seed for winter Cucumber plants. They should be started in a gentle heat and grown sharply on so as to make strong plants by the month of October. We have grown many sorts of Cucumbers this summer, including Tender-and-True, but with us neither this nor any other kind equals Telegraph, which is undoubtedly the best all-the-year-round variety extant. I might add a few more notes on the kitchen garden, but all this kind of information is now given so thoroughly up to the times in your Work for the Week that it is hardly necessary for me to say what I have said, only the subjects referred to are so very important at the present time that there can be no harm in drawing special attention to them.—A KITCHEN GARDENER.

AN EVENING AT LAMBTON.

"VALERIANA PHU." Those are the only two words in my note book having reference to the famed gardens at Lambton Castle, what I write therefore will be from memory. My remarks will consequently be general, which is all that is necessary, as a full and detailed account of the gardens has appeared in the Journal from the pen of the veteran correspondent Mr. Robson; but to the Valerian, for it may be well to dispose of it first. As many readers are aware this is a very old hardy perennial, so old that it was introduced from Germany nearly three centuries ago, and is generally considered of little value, and receives, as a rule, little cultural care. At Lambton, however, this plant, or rather what I presume is a golden sport from it, is grown by thousands for the decoration of the flower garden in spring. Its foliage now is pale green, but in the spring Mr. Hunter states that it assumes a brilliant transparent yellow hue quite surpassing the Golden Feather, and this Golden Valerian is esteemed one of the most useful and effective of all spring-bedding plants. So much for Valeriana Phu.

Lambton Castle, its pleasure grounds and gardens, are situated on the northern declivity which rises somewhat abruptly from the river Wear, a tidal river which has its effluent at Sunderland. The banks of the river are in some places precipitous, and are densely clothed with fine timber trees and a luxuriant undergrowth of wild vegetation. The view from the Castle down the immense ravine at its foot and onward to the opposite bank, with its undulated far-stretching mountain of foliage, is one of dignity and grandeur. From the pleasure grounds, too, the vistas, tastefully opened out here and there from various points of vantage on the curving walks, bring into view scenes of great natural beauty. Views similarly commanding and highly picturesque are also obtained from the terraces, whereon are erected the extensive ranges of glass structures, and from the attractive, commodious, and convenient residence recently built by the Earl of Durham for his trusted and competent gardener Mr. Hunter. The Castle may be said to be near one extremity of the pleasure grounds and gardens, and Mr. Hunter's residence near the other. Between those two points immense labour has been expended in excavating and levelling for the various walks and buildings, and great successes have been achieved both as regards general effect and conveniences, and not less so in the cultivation of fruits and the raising of new varieties. Rising high above the grounds and gardens is a dense sheltering background of trees, and below, as before observed, is the chasm-like valley of the Wear and its gently winding river. Such is the general character of Lambton. Let us now look a little more closely at a spot which Nature and Art combined have made so attractive.

As a matter of convenience we may commence at the lowest and easterly point and travel westward and upwards. Descending the slope from Mr. Hunter's residence we "land" in a comparatively new unvalled kitchen garden of about four acres. After much labour this piece of ground has been rendered fertile and valuable, whereas a few years ago it was a wild morass. It was only slightly above the tidal level of the Wear, and some idea may be afforded of the labour involved in its reclamation when it is stated that a depth of 9 feet of soil was carted to bring it to its present comparatively safe cultivable state—comparative because during periods of floods the overflowing river occasionally submerges it. The lowest part of the ground is the broad central walk, from which the ground rises on either side, forming two long and rather steep banks. Thus the crops can be seen to great advantage, and well they look. The heat and drought has been extreme at Lambton, but the best of all means has been

adopted for counteracting their effects—namely, all the principal crops were timely and heavily mulched. In cropping the sensible plan is adopted of growing extensively a very few varieties of vegetables—those that have proved themselves best adapted to the situation, and which are of approved quality. Pyramid fruit trees fringe the walks—handsome well-trained specimens, just arriving at a bearing state. A few have good crops, but the blossom in such a low position often suffers by late spring frosts. This garden is bounded on the west by the walled kitchen garden, and here on one of the borders, which is very wide, a capital plan was adopted of preserving fruit from birds.

The wall is covered with fruit trees, and the border is also planted with bush fruit trees bearing heavy crops. Along the front of the border next the walk a few neat posts and battens are fixed, and from this framework other battens reach to the top of the wall; the whole is then covered with netting, made secure at the top ends and bottom. By opening the netting at one end the fruit can be gathered both from the wall and bushes with the greatest convenience, the height of the netting affording ample head room for the gatherers. The same mode of growing and protecting fruit is practised at Potholm near Langholm, N.B., Mr. Taylor's small but good garden, lately managed so successfully by Mr. Bole, now of Somerleyton. The bushes grown on the borders do no more harm to the wall trees than the trees sustain by the usual and generally heavy vegetable cropping that is practised, and a valuable supply of fruit is prolonged to a late period of the year. The south wall of this the old kitchen garden is both lofty and substantial, as it is the supporting medium of a large terraced flower garden, which is laid out in front of one of the chief ranges of glass, access to which is had from the lower garden by flights of stone steps. From the balustrade at the top of the steps a commanding view is had of the flowers on the terrace, the flowers below which are tastefully planted in ribbon and carpet fashion on the wide borders of the central walk crossing the garden (with the large fountain in the centre), and of the flowers beyond the walls disposed on grass in the pleasure grounds. The kitchen garden under notice is cropped similarly to the other with vegetables and fruit trees, and the side borders where not occupied with summer flowers are employed as nursery strips for spring-bedding plants, of which seventy thousand are required annually—the *Valeriana Phu* above noticed, *Aubrietias*, *Daisies*, *Pansies*, and *Wallflowers* appearing to form the staple sorts. Everything in the kitchen garden department looks well, except weeds; of these there are none. When the culinary department of a garden is kept in the high order that prevails at Lambton it is as enjoyable as any other portion of an establishment under the gardener's care.

Still pursuing a westward course on the lower ground we pass from the kitchen garden to an open lawn, across which a broad curving walk traverses flanked with wide flower borders. These borders are arranged in a series of beds of the Florentine chain pattern edged with Box, the narrow paths between the scrolls being surfaced with white and red gravel. It is not necessary to particularise the mode of planting, but it may be remarked that although no rain had fallen since the beds were planted the yellow *Calceolarias* were flowering splendidly, the earth moisture being sufficient thus far to sustain the plants; but unless a change speedily occurs and showery weather succeeds their beauty will soon be over. Another plant is worthy of mention—Harrison's Giant Musk. Although exposed to the full influence of the sun the plants are growing luxuriantly and flowering profusely, and Mr. Hunter has great hopes that this Musk will make a valuable bedding plant at Lambton. The beds referred to are very large, the design probably exceeding 12 feet across, and its considerable length and graceful curves render this portion of the garden remarkably cheerful. On the lawns on both sides of the walks are a few Conifers, and on three sides out of four is a dense background of trees. But although ornament is the essential feature here it is made to contribute to utility: on one side of the walk is a miniature pond for aquatics with a rocky margin for various hardy plants of semi-aquatic nature. The overflow from this circular pool is conveyed under the walk, and is turned to account behind the shrubs for the growing of Watercresses. In an open and ever-running stream of clear water an abundant supply of "sweet Cresses" is always ready for cutting. Near this point a suspension bridge crosses the Wear, and is both useful and ornamental.

We pass onwards through the shrubbery, which is a dense thicket of vegetation. Rhododendrons are the predominating

evergreens. The ground is boldly undulated. On one hand are mounds steep and high, on the other such dells as Nature alone could form. Ferns luxuriate and wild flowers grow in refreshing masses between and amongst the trees. In the spring the ground is covered with a dense carpet of blue—the wild blue *Scillas*, which grow in countless millions all over the place. Here and there are openings of lawn studded with choice Conifers, which grow fairly well in this country of coal. These shrubs like a pure clear air, but in Durham they have to struggle with an atmosphere more or less contaminated with smoke. Coal mines are all around us and beneath us—the Earl of Durham owning sixteen pits—yet so well is the estate wooded that not one chimney is visible and smoke is seldom seen, but the Conifers feel it. We reach the Castle—a huge strong pile with its plain gravelled terrace on the south side, and expansive flowerless lawns on the west and north. A few, very few, flowers are planted near the walls on one side, and a few others are arranged in handsome stone vases made on the premises, but the lawns contain, and properly so, no flower beds. There is something incongruous when modern carpet bedding is associated with severe Norman architecture, with which only fine trees irregularly planted fittingly harmonise. There is plenty of room for flowers on such grounds as these without unduly encroaching on the Castle, and flowers there are, for a hundred thousand plants are planted every year.

Allusion has been made to the great expenditure of labour that has been necessitated in forming the grounds and gardens, but the most stupendous task of all has been in rendering the Castle firm and secure. The ground for miles has been honeycombed for coal, and although the seams are some hundreds of feet below the surface, yet the immense weight of the massive stone pile was too great for the crust on which it was built. The sinking of the building was, of course, unendurable, and equally unendurable was the thought of its abandonment. A gigantic work was undertaken, even nothing less than building up from the firm seams deep down in the earth to the base of the Castle. In this work fourteen millions of bricks were used, and relays of men were uninterruptedly engaged night and day for seven years. It was an extraordinary undertaking, but it answered the purpose, and the Castle is safe.

Returning on higher ground we find ourselves on the terraced flower garden above mentioned as overlooking the kitchen garden. It is a long expanse of flowers about 18 feet wide arranged in a pleasing design. It reminds us of the fine borders at Archerfield, where Mr. Hunter formerly practised under a skilled tutor, Mr. David Thomson. We pass along the terrace to the east front of the long range of glass, enter, and again travel westward.

The Grapes of Lambton are of national fame. At the greatest exhibitions in the three kingdoms they have won high honours, and Mr. Hunter is by general consent placed high on the list of successful British cultivators. A glance at the Vines that have produced such remarkable fruit as history has recorded cannot fail being interesting. We are in a grand vinery 100 feet long, lofty, and with a good length of rafter. For years past the Vines in this house have produced splendid Grapes. The secret, if it is any secret, of Mr. Hunter's success is not far to seek. It is stamped with tolerable clearness on the Vines themselves. They are in a good larder, that is clear; for their strong rods, stout but not gross laterals, and fine but not exuberant foliage, speak plainly on that point. They have good soil, are well drained and copiously watered. So much for the roots; now to the disposition of the branches. As may be expected they are thinly trained. The rods are wide apart, and the laterals are so arranged that every leaf is permitted to expand on which the sun can shine, no more nor no less. That is a great point in Grape-growing. Overcrowding of the laterals and foliage is a great evil, perhaps the greatest and most common of all errors in Vine culture. Let the border be ever so good, there can be no fine Grapes unless the foliage is perfectly developed, and there can be no really good foliage unless every leaf has full exposure to light and air. But while overcrowding is so pernicious, another evil, it may be a lesser evil and less prevalent, but still an evil, is overpinching. "Pinch the shoots at one leaf beyond the bunch" was at one period in history rather stereotyped advice. It was, however, and is unsound advice if the Vines are thinly planted and the rule-of-thumb pinching is so rigidly adhered to as to leave long-lines of glass a foot wide visible from below. The unutilised light is so much loss to the Vines. At Lambton the laterals are in the first place thinned sufficiently that the leaves of one do not when expanded overlap those of the other. They are

then stopped, not at one, nor two, nor three leaves beyond the bunch—are not, indeed, pinched on the counting system at all, but every leaf is permitted that can expand without encroaching on space required by its neighbour. That is the only truly rational system that can be recommended for stopping the shoots. Another important lesson is conveyed by the Lambton Vines—they are not overcropped. The crops are good, bunches large and full, and berries fine and finishing well, but care is evidently taken that the crops are not of an exhaustive nature, or such excellent results could not have been achieved over such a long period. Several varieties are fruiting in this house. Gros Colman is free and fine—plenty of bunches, and huge berries colouring well. It not only looks well, but I am told it is invariably of good quality at Lambton, which is not the case everywhere. Alicante is splendid, Calabrian Raisin imposing, Golden Champion attractive by good and full bunches and clear berries, only a very few being slightly spotted; but one of the finest crops is on Gros Guillaume. Grafted on Muscat Trovère (Trovère Frontignan) the bunches are of fine shape and noble size, the berries also being very large and colouring well. A cane of Alnwick Castle Seedling was inarched on one of the Vines in the spring, and a small bunch that it produced was allowed to remain; it is colouring excellently, and Mr. Hunter considers it a Grape of much promise. Passing many other varieties on the roof, we glance at the back wall. Some years ago a Vine was planted in the cold north border behind the house; and its cane being brought through two walls into the house it grew freely, and two branches were trained horizontally (one each way from the centre where the Vine entered) near the base of the wall, from which rods were trained vertically at distances of 3 or 4 feet. The Vine not only covered the entire wall but has produced Grapes of the first quality, and it has further entered the next house and has there covered a great extent of space. It has, however, nearly done its work, and cannot be expected to continue much longer bearing well under the densely covered roof. Let no one jump at conclusions and request Vines being planted for producing fruit on the bare back walls of their vineries. It is no use planting Vines in such positions *after* a roof is covered with foliage, but if planted at the same time as Vines are planted for covering the roof valuable crops of Grapes may be had for a few years from the back walls of vineries. I shall shortly notice a successful example of this when referring to a wonderful instance of Vine culture by an amateur, Mr. Witherspoon.

Other vineries at Lambton demand notice: it must necessarily be brief. The Muscat house contains large, full, and capital bunches just in their finishing stage. A striking example of sap-diversion is to be seen in this house. A young cane brought from the front of the house was inarched to a Vine several feet up the roof. After the union was effected the inarched cane was severed about 4 feet below its junction with the other Vine; but although severed the part below the union continued growing, and has there produced a bunch of Grapes quite equal to any other on the Vine, proving that the sap has flowed in a reverse direction freely. A modicum of support is probably derived from a bottle which Mr. Hunter has attached to the severed portion of the cane; but undoubtedly the great bulk of nutriment is afforded by the Vine on which the cane is inarched. The Black Hamburgh house in this "low level" range also contains many fine bunches, and large, hammered, and well-finished berries. Passing as a matter of convenience other houses of plants, Peaches, &c., in this range, we ascend the upper terrace to glance at the Grapes there. The late house may be described in few words. It is very lofty, and a totally different system of culture is practised than prevails in the other structures, the object being the production of a great number of small bunches of such Grapes that are required to keep until Grapes come again—sound policy, as all know who have such work to do.

We now linger in a house of Black Hamburgs, which has upset some preconceived notions of turfy loamists, and which is a standing rebuke against dogmatic teaching on the subject of soil for Vines. It has almost become fashionable to advise that no manure be placed in Vine borders, but that manure be placed on the surface, and where soil is tolerably fertile such advice is, doubtless, both safe and sound; yet manure is not the dangerous element that is popularly supposed, or the Vines in this house would not be in the condition they now are. They were planted as an experiment five years ago in a mixture of tree leaves and cow dung mixed and trodden firmly to a depth of 3 feet. Not a barrowful of soil of any kind was used in the

border, which is inside the house. The front wall was cemented to keep the roots inside. These manure-grown Vines have produced splendid crops, and Grapes are hanging now worthy of being placed on any nobleman's table—good bunches, and large black berries of the first quality. The Vines, too, both as regards wood and foliage are in a most satisfactory state. For the sake of appearance the border is slightly covered with soil. Free permission is given by Mr. Hunter for any visitor to dig down as deep as he likes to examine the border, and a fork is kept in the house for that purpose. Many trials have been made, and all with the inevitable result that nothing but manure is dug up and masses of fine healthy roots, no roots being found in the surface soil. The border is not a pasty mass, but has simply changed as manure in heaps invariably changes, to a mouldy bulk of rich humus. The Vines evidently enjoy it as much 2 and 3 feet deep as they do when spread on the surface in the form of heavy top-dressings. The distance is an impediment, or Grapes from this house would probably be submitted to the Fruit Committee of the Royal Horticultural Society. As a result of the experiment it may be stated that in new Vine borders projected at Lambton manure will be mixed with the soil freely. It may be mentioned incidentally that manure is liberally employed by the market growers of Grapes near London for incorporating with the soil of their Vine borders, and heavy crops of excellent Grapes are produced.

Lambton, too, is famous for Pine Apple culture. The plants are grown in light and lofty—too lofty—span-roofed houses. They are chiefly grown in pots, but some are planted out. All are in admirable condition, and good fruits are plentiful; but it is to the seedling Pines that most interest attaches. In the raising of new varieties, as the result of artificial fertilisation, Mr. Hunter has had great success. Of one of the finest of the Lambton seedlings—Lady Beatrice, a good stock of plants is raised, and propagation is being conducted as quickly as possible with a view of their distribution to the public, Lord Durham having kindly and generously placed the stock of these seedlings at Mr. Hunter's disposal. The raising of a stock of new Pines is a work of patience, for though a seedling Pine may be fruited within two years any considerable number of the same variety cannot be produced under several years. All the plants, old and young, are remarkably healthy and very clean.

A new Fig, the Lambton Castle Seedling, in one of the houses arrests attention by its prodigious crop. Fruit is produced at every axil, a large tree being simply wreathed with fruit, and plants not more than 6 inches high in small pots are also bearing fruit in clusters. This Fig is not only by far the most prolific of all the Figs grown at Lambton, but it is esteemed by the Earl of Durham's family as the best of all in quality.

Large houses are devoted to Peaches and Nectarines. One large structure was particularly noticeable. Standard trees cover the back wall, and a large trellis is also covered with trees. Under the trellis, which is lofty, a row of Plums is planted near to the walk, which is at the back of the house, the trees receiving light from the glass over the pathway. All the trees in the house, Plums included, are bearing excellent crops. The Plum trees grow in their natural manner, and receive very little of either pinching or pruning. They cannot fail being useful, producing as they do many valuable dishes of fruit. Cape Gooseberries are also grown in the same house. Cucumbers and Melons are largely grown, and at the back of some of the highly heated structures Tea Roses are planted out in troughs, and grow and flower admirably. They are not trained, and appear to receive little pruning beyond that given by cutting the blooms.

Nothing as yet has been said on plant culture. Many plants are grown, and grown well—not large symmetrical specimens, but fresh healthy plants for decorative purposes. The conservatory is in the centre of the "lower level" range of glass, and reaches back to the higher terrace, necessitating a flight of steps in the interior. This structure was undergoing alterations, and the Tree Ferns, Cycads, Palms, &c., were disposed for convenience rather than for effect. In addition to the two long ranges of glass alluded to, some large preparing plant houses are erected still higher up the hillside. The centre bed of one large house was covered with a luxuriant growth of *Pittonia argyroneura*, which not only had a pleasing effect, but prevented the soil in the pots of the plants placed amongst it drying so speedily as if the pots were exposed. Many plants in small pots had their pots placed in larger, the space between

the pots being filled with cocoa-nut fibre refuse. Much labour in watering was saved, and the health of the plants was promoted by the adoption of that practice.

Between the two primary ranges of glass a long grassed terrace is formed and laid out as a flower garden. The beds are extremely gay, and whether viewed from above or below, or from either end, have a very cheerful appearance; but what strikes the visitor most, taking the upper terrace as a standpoint, is the elaborate manner in which the back walls of the vineries on the lower range are ornamented. Formerly unsightly, they are now, after the exercise of much skill and patience, a remarkable feature of the gardens. They are covered with *Pyracanthas* (*Crategus Pyracantha*), but in a very different manner than walls are usually covered with that useful evergreen. The *Pyracantha* for about 2 feet from the ground is cut, forming a hedge about 6 inches in thickness; above the hedge and for a height of about 4 feet branches are trained in the form of trelliswork; above the living trellis-work growths are trained so as to describe the names of two of Lord Durham's daughters, which are written most accurately and clearly in Roman capitals about 15 to 18 inches high; above the names runs a finishing cornice, which completes the covering of the wall. On one side of the conservatory which divides the border is the name, if I recollect rightly, of "The Lady Louisa Beatrix Lambton," and on the other "The Lady Eleanor Katherine Lambton." The slender branch supporting each letter is kept denuded of foliage, and at a short distance from the wall is not perceived, which renders the arrangement all the more novel. The accuracy with which the work has been carried out, and the trimness and clearness in which it is kept, constitute a living record of taste and patience. The walls supporting the houses are also covered with *Cotoneaster microphylla* trained in small squares, and the effect produced is unique. On some other walls Gooseberries are trained in the same manner.

Another striking feature at Lambton demands notice—namely, the splendid provision that the Earl of Durham has recently made for the comfort of those who are engaged in his gardens. Mr. Hunter's beautifully situated residence has been alluded to; it is replete with every convenience. The newly erected young men's rooms are models of their kind; every requisite is provided for promoting health, and provision is also made for sickness. Every man has a carpeted bedroom, and there is a bathroom with "hot and cold water always ready." And then there are the labourers' cottages also new, and such that are seldom met with. They are artistically built, yet are commodious and convenient, and the flower gardens in front are equal to many in gentlemen's gardens. No doubt the men value highly such dwellings, and they will not value them the less when I tell them that such houses in the vicinity of London would be considered cheap at £30 a year each.

In this review of a fine, well-managed, and excellently kept garden I have forgotten much that is worthy of mention; but one thing I cannot forget, and that is the genuine welcome I received and the few pleasant hours I spent with Mr. and Mrs. Hunter during my "evening at Lambton."—J. WRIGHT.

ESTIMATE OF THE VALUE OF THE APPLE CROP IN HEREFORDSHIRE.

THE following extract, which attempts to give a rough estimate of the annual value of the Apple crop in Herefordshire, is taken from the retiring address of the President, J. Griffith Morris, Esq., to the members of the Woolhope Naturalists Field Club:—

"The study of pomology is not strictly within the range of natural science, and yet in a county so celebrated as is Herefordshire for its Apples and the wine made from them, it is a study of paramount importance. The members of the Woolhope Club have often considered this subject, and in consequence of a conversation held at the Fungus Foray of 1873 the Rev. M. J. Berkeley sent down grafts of the most esteemed varieties of Apples from the gardens of the Royal Horticultural Society of London. These sorts, ninety-five in number, were distributed among the members of the Club and to the leading nurserymen in the county. In 1876 an exhibition of Apples was held under the auspices of the Club, and this was repeated very successfully last year.

"The value and quantity of Apples grown in Herefordshire, and of the cider made from them, is but very insufficiently appreciated. From official returns condensed in the 'Farmers' Almanac' of 1877, by Mr. Webb of Tunstall, it appears that about

4 per cent. of the total acreage of Herefordshire is laid down in orcharding. The total area of the county is 532,898 acres, and therefore 21,500 acres is the extent of orcharding. With this basis for calculation it seems possible to arrive at a rough estimate of the value of the Apple crop.

"In these days of cheap and rapid transit all Apples of size and colour meet with a ready sale for edible or culinary purposes. At least one-quarter of the fruit grown is now sold in this way and called pot fruit; the remaining three-fourths is made into cider. To consider first the cider fruit at the very low average of 60 bushels of fruit, or three hogsheads to an acre, it will produce 48,375 hogsheads, worth at £2 a hogshead £96,750. The pot fruit at sixty bushels to the acre and 3s. a bushel—a very low price—will be worth £48,375. It must also be remembered that pot fruit is grown in almost every garden, and this, if estimated at the same value and quantity as that grown in orchards, will yield £48,375, and thus we arrive at the large sum of £193,500, the total value of the Apples grown in the county.

"If, then, these calculations are correct the £21,500 acres of orcharding in Herefordshire should return, taking one year with another, with ordinary care more than £6 an acre, without reckoning the value of the underneath crop. We know that it is not uncommon for orchards to return £10 per acre.



Fig. 12.—*Erica Lindleyana* (see page 91).

"To this day cider is generally made, as it was centuries ago, by the labourers on the farm, with a minimum of care, labour, and superintendence. Most of the details, such as the selection, growth, preparation, and crushing of the fruit, seem in a theoretical view to be each of them capable of improvement. Almost the first consideration in the culture of the Apple is the selection of sorts to the purpose for which they are required, whether it be the mill, the kitchen, or dessert.

"With the view of aiding the grower in making a selection the Woolhope Club have decided on publishing a Pomona, in which every Apple and Pear worthy of cultivation for acknowledged good qualities, such as productiveness, hardness, flavour, sweetness, &c., will be described, and its outline or coloured representation given. Dr. Hogg, the well-known pomologist, has kindly offered to edit the work for our Club, and thus the accuracy and care with which it will be produced are amply guaranteed."

THE HAWKHURST HORTICULTURAL SOCIETY.

THE annual Show of this Society is deservedly very popular, and that recently held in the grounds of Lady Thompson, Fairview, was as usual a complete success. The Society was originally formed with the creditable motive of improving cottagers in gardening generally, and the Committee deserve much credit for still bearing this in mind. The district includes several large parishes situated in a delightful and very fertile part of Kent. A visit to this and other similar shows in Kent and Sussex would astonish

many frequenters of flower shows, the cottagers exhibiting in such numbers and staging such excellent produce. It is impossible to estimate the amount of good this and kindred societies do among the industrial classes, as none but those mixing with them know how much they anticipate the Show, and what pains is taken with the intended exhibits.

The cottagers' exhibits alone, however, are not sufficient attraction to "the million," consequently the aid of the professional gardener must be solicited. To these also fair encouragement in the shape of prizes must be offered, as exhibiting entails much hard work, known only to them who have experienced it, and there is nothing strange in the fact that gardeners require to be paid for their labour. Competition has effected a marked improvement in the professional classes around Hawkhurst, thus proving that employers who subscribe to horticultural societies are indirectly repaid by the improvement effected by the societies in their own gardens. Committees may be hardworking and practical, but without funds are powerless to do good. The following is a list of some of the principal prizewinners in the professional classes.

In the open classes Mr. Gilbert, Springfield Nurseries, Hastings, was first for stove and greenhouse plants in flower, and also for foliage plants. His collection included very fine plants of the popular but old *Kalosanthes coccinea*, *Allamanda Hendersonii*, &c. Mr. L. Barnes, gardener to E. B. Sutton, Esq., Copt Hall, Hawkhurst, was a very successful exhibitor, being first for Achimenes, Coleuses, Pelargoniums, twelve Roses, collection of fruit, collection of vegetables, white Grapes, &c. Mr. Manck-tellow, gardener to Dr. Harris, Northiam, was first for four stove and greenhouse plants, six Ferns, &c. Mr. Nicholls, gardener to J. C. Fisher, Esq., Hawkhurst, was first for Fuchsias, foliage plants, &c. Mr. Hodgkins, gardener to Capt. Oakes, Sandhurst, was first for Caladiums, Gloxinias, &c. Mr. G. Rummery, gardener to Mrs. Gow Stewart, was first for a green-fleshed Melon, &c. Mr. Gilmour, gardener to the Rt. Hon. G. J. Goschen, M.P., was first for Balsams, Cucumbers, &c. Mr. W. Salcombe, gardener to Dr. Newington, Ticehurst, was first for Roses (special prize given by Mr. W. Knight, Hailsham), collection of fruit, &c. Mr. F. Deane, gardener to T. Neve, Esq., Cranbrook, was first for bouquet. Mr. J. Iggulden, gardener to Rev. Canon Jeffreys, Hawkhurst, was first for a collection of Vegetables. Mr. Whitby, gardener to E. Hardcastle, Esq., M.P., Hawkhurst; Mr. Butler, gardener to D. N. Olney, Esq., Robertsbridge; Mr. W. Brett, gardener to G. French, Esq., Hawkhurst; Mr. Willard, gardener to J. A. Jackson, Esq., Hawkhurst; and Mr. Bishop, gardener to W. Harner, Esq., Hawkhurst, were also successful exhibitors. The cottagers exhibited in great numbers, there being fifty prizewinners, some of them taking several prizes.

Mr. W. Potten, nurseryman, Sissinghurst, staged an excellent collection of plants not for competition, and Mr. Knight, nurseryman, Hailsham, some very good stands of Roses of the best sorts. There was also a tent given up to the arts and manufactures, which included a variety of useful and valuable ornamental articles which helped to make the Show very attractive and enjoyable.

JUDGING.

WHILE agreeing in the main with the observations in last week's Journal, will you allow me as one who has had some experience to supplement them with a few remarks? In the first place I hardly think that the definition blindfold and open judging is a correct one; for the system which you have described as that adopted by the Royal Horticultural Society and others is, or ought to be, as much a blindfolded one as any other—that is, the card itself is no indication of who the exhibitor is; the number indeed may be noted, and so if it occurs in other classes the exhibitor may be guessed at. What I call open judging is the system adopted, amongst others, by the National Aricula Society, where the name of the exhibitor is exposed to view; and although this has been objected to, yet I am convinced that as true and correct judging is given in such instances as in others. As you justly observe, an experienced judge knows from the very setting-up of the blooms, the writing, the character and quality of the plants or blooms, or something, to whom they belong, but he is unworthy of the position if any of these things influence him.

I remember a ludicrous case of the insufficiency of any of these safeguards. I was once called upon to judge at a provincial Rose show where a very large prize was offered for the best seventy-two Roses. A most elaborate system for blind-folding the judges had been arranged, and it was thought most successfully. After my colleague and myself had gone round and adjudged the prizes I said to the Secretary who accompanied us, "That box is So-and-so's;" in fact we named every competing box, in some of the cases one Rose was sufficient to determine it. And there, and in every instance where I

have had the opportunity, I have succeeded in inducing them to adopt the far simpler plan in use in London.

Again, I would observe that these attempts to prevent the judges knowing the exhibitors is not intended by the promoters of a flower show to show that they in any way mistrust the judges, but because of the petty jealousy of some of the local exhibitors, generally small gardeners, who, not being particularly gifted with clear eyesight themselves, are sure, if they are beaten, to lay it on the judge. Where a judge has twenty plates of Longpod Beans to decide upon, at least thirteen out of those who are beaten think they had no business to be left out in the cold, and probably there is very little difference between their Beans and those that take the prizes, and one can understand how some persons would storm if the exhibitor's name was exposed. Persons of this class are one of the greatest hindrances to local shows, and unfortunately they are proof against all explanation. For example, at a show at which I was judging the other day a mistake had been made by the Secretary in putting two exhibits in the same class, whereas they ought to have been in different classes. After the adjudication was made attention was directed to this, and it was necessary to alter. The erring card had to be torn up, and the wrathful exhibitor went storming through the place, "I seed him tor' it up myself," evidently coupling that act with his loss of a prize; if it had not been "tor' up" he would have been all right. On the whole I believe the system of the Royal Horticultural Society, National Rose Society, &c., is that which works best, and I believe it will be ultimately adopted throughout the country. As the advertisements say, "it only needs to be known to be appreciated."—D., Deal.

FUCHSIAS FOR AMATEURS.

IN a former communication I referred to the great importance of good soil as a first essential in plant culture, and to the wisdom and even the economy of purchasing it if a supply cannot be had by other means. But soil, I wish to repeat, is not everything. Some cultivators, even if they have the best compost that can be mixed, do not succeed so well as others with soil of a very ordinary nature. The difference lies in the treatment of the soil and the plants. Ordinarily light and fertile garden soil will grow Fuchsias fairly well provided the plants have correct treatment in other respects. If anyone doubts this let him plant out a Fuchsia anywhere in his garden in which he can grow good Radishes in July, water it as needed, and he will be surprised how well the plant will flourish.

For growing plants in pots mix a twentieth part of soot and a tenth of silver sand with fertile garden soil, and in this compost the plants will grow. If the garden soil is heavy a sixth of cocoa-nut fibre refuse will be an advantage. This compost is suggested for those who cannot obtain turfy loam, leaf soil, &c.

A few errors that amateurs not infrequently commit in Fuchsia culture is—first, starting their plants too soon in spring when they have not light and well-ventilated houses for growing them on in a sturdy short-jointed manner; secondly, by allowing the wood to become hard and brittle when the plants are small; and thirdly, permitting them to become infested by insects, rendering fumigation or the application of an insecticide necessary.

If a Fuchsia becomes root-bound in a small pot its wood ripens prematurely, it flowers early, becomes exhausted, ekes out a miserable existence, but never makes a good plant. The growth must be kept in a soft state until the plant has attained the desired size for flowering, or really satisfactory results cannot be produced. If a plant is kept in a sunny window, or under the shade of Vines during the summer, or is unduly crowded by other plants under glass, it cannot prosper. It must be kept growing steadily, it must be kept short-jointed, it must be kept clean.

These conditions are easily attained at this period of the year if the mode of attaining them is not considered too simple for adoption. Place them on ashes on a shaded border, such as behind a north wall; water them well, keeping the ground on which the pots stand constantly moist, sprinkling the foliage well during sultry weather, and they will grow more healthily than in any house. Plants large or small are better outdoors than in during the next six weeks or two months, unless they have houses or frames specially adapted for them, which is seldom the case with amateurs.

Fuchsias obtained from a nursery now are usually much

stronger for the money than when purchased in early spring, and they are now most easy of management, should flower in the autumn, and lay the foundation for good plants another year.

Unfortunately the varieties having the finest individual flowers are not always the best worth purchasing, as many of the newer sorts do not possess good habits and constitutions. Some of the old and moderately old sorts are still the most satisfactory; for instance, there are few freer growing and flowering Fuchsias in cultivation than the good old Rose of Castile. Another old variety, Venus de Medici, is still one of the most attractive of the light sorts. A fine, free, and valuable variety is Miss Marshall; Starlight is also free and very good; and highly effective is Lady Heytesbury. Arabella Improved is a strong grower with fine bells; and a little gem is Guiding Star. Marginata is also a real amateur's Fuchsia in this section. Mrs. J. Lye is also good; and distinct and pleasing is Minnie Banks. Lustre is a strong grower, and Beumanni, dwarf, make up a dozen good varieties having white tubes and corollas and pink or violet corollas.

Amongst the dark varieties the following are free growers and bloomers, and altogether good:—Model, Albert Victor, Enoch Arden, Try-me-Oh, Rhoderic Dhu, La Traviata, Killiecrankie, Noblesse, Wave of Life, Victor Emmanuel, Crown Prince of Prussia, Lord Falmouth, and to make a baker's dozen, the good old Souvenir de Chiswick. The dark varieties with double corollas are mostly of straggling growth; Blue Boy, however, is dwarf, and so are Little Bobby and Alberta. Good stronger growers are Avalanche, Albert Memorial, and King of the Doubles; large but almost ugly is Champion of the World. Amongst the double varieties with white corollas the best are Mrs. Cannell, Miss Lucy Finnis, Little Alice, and Enchantress. Singles of the same colour are Conspicua, old but good; Cannell's Gem, Miss Burdett Coutts, and Mrs. Mein.

All of the above I have grown and can recommend, also two others of recent introduction, and quite distinct from all the varieties named—namely, Mr. Laing's useful hybrid Earl of Beaconsfield, and a variety sent out by Mr. Cannell named Aurora superba.—A NORTHERN GARDENER.

STIRLING CASTLE APPLE.

MR. WILLIAM HARVEY, watchmaker, told me that it was raised about fifty years ago by a man of the name of Christie, who kept a toy shop, and had a garden off the back street (i.e., Spital or John Streets) where he experimented on the raising of seedling Apples, but Stirling Castle was the best of them. The first graft was given to a gentleman of the name of Anderson, and planted in his garden in Albert Place, now occupied by his daughter, Mrs. Watt.—G. McDUGALL, *Rapallock, Stirling, N.B.*

NAN-MU TREE OF THE CHINESE.

DR. BRANDIS has drawn our attention to a passage in Mr. Davenport's report on Yunnan (Parliamentary Papers, China, No. 2, 1877, p. 13), giving an account of the Nan-mu tree, the wood of which is so highly valued by the Chinese. If it could be accurately identified the cultivation of the tree would no doubt be very profitable in India, and I therefore place on record what has been ascertained respecting it. The following is from Mr. Davenport's report:—

"This part of Yunnan, which seems to be between 25° and 26° N. lat., produces the famous Nan-mu, so highly esteemed by the Court for building purposes and by the wealthy for coffins on account of its durability. This timber is to be seen in perfect condition after the lapse of nearly three centuries in the shape of enormous pillars in the tombs of the emperors of the Ming dynasty, and has usually been supposed by foreigners to be teak. The tree is tall, thin, straight-growing, having no bough or twigs on the stem but suddenly shooting out branches at the top, somewhat like a canopy over a may-pole. Its bark is of a peculiar ashy grey colour, and a specimen of the leaves gathered by myself, accompanying this report, will prove beyond all doubt that it is not a member of the teak family. During the Ming dynasty this wood had already become scarce (having probably been everywhere cut down and not replanted), and was brought chiefly from almost inaccessible valleys situated in the valleys inhabited by wild tribes. The imperial palaces at Peking were built almost entirely of this timber.

"At the present time this wood is imported into Shanghai in planks measuring 8 feet long by 13 or 14 inches in diameter, for which the highest price is 200 dollars per plank. Whole coffins range from 100 to 800 dollars. The quality is judged of chiefly by the pungency of the scent."

The leaves sent by Mr. Davenport to the Foreign Office cannot now be traced, but by the courtesy of E. Bradford, Esq., late Master of the Apothecaries Society, to which the specimens of drugs collected by Mr. Davenport were sent, I have been favoured with a further fragmentary specimen transmitted by Mr. Davenport, and also with specimens of the wood brought to this country by Wm. Lockhart, Esq., who states that "it is also used largely by Chinese gentlemen who take a pride in their libraries to make boxes for sets of volumes, and also to place between sets of volumes."

The leaves are too slender a basis for a certain botanical determination in the absence of flowers and fruits; but it appears extremely probable that the tree belongs to the family Lauraceæ, and the leaves themselves agree very closely with those of *Phoebe pallida*, Nees.—(*Kew Report*.)

SUMMER CUCUMBER CULTURE.

"NEW SUBSCRIBER" says that for the first time the Cucumbers in the district in which he resides are badly attacked by what to him and his neighbours is a new disease, but which from his description is evidently a bad case of *gumming*, so called from the sap which exudes from the affected fruit, and becomes hardened to the consistency of gum along the numerous cracks on its surface.

There is no cure for this complaint, and the plants must be destroyed—not by any means in despair, for a fresh batch of seedling plants should be planted immediately in fresh sweet soil, and although they may be grown in the same house or pit yet they may not have a single fruit affected.

Another correspondent complains that his plants, notwithstanding the advantage of a good house, have died after "bearing a good many Cucumbers." This is probably a case of exhaustion—I say probably, because grubs may have attacked the roots and induced premature decay. Barrenness and decay are, however, so frequently caused by ignorance of the treatment which the plants should have when in full bearing, that attention must again be called to the palpable fact of such a gross-feeding plant requiring supplies of nutriment in proportion to its size and crop of fruit. Not only must there be frequent surface dressings of fresh soil, but that soil must be of such a nature and so disposed as never to become a sodden compact inert mass from the daily drenchings of water and liquid manure which the plant requires and must have to enable it to perfect its fruit, and at the same time make abundant new, robust, and fruitful growth.

If I were asked for a method of growing Cucumbers in summer which had never been known to fail I would say, Take a table, place it under and some 3 feet below a glass roof; take a bushel of soil consisting of chopped turf and decayed manure in equal parts, shoot it on the table in a heap; in this plant your Cucumber plant, train it up a stake to a wire trellis strained a foot below the roof, nip off the top of the leading shoot when it reaches the trellis to induce a stout lateral growth, which train about the trellis. Water and syringe freely, and when the roots appear outside the heap of soil cover the mound with a couple of layers of turf sods, and go on adding more sods whenever the roots peer out and ask you for them. As the fruit begins swelling substitute sewage or liquid manure for the clear water, and in the latter stages of the plant's existence cover the entire heap of soil with cow dung.

My motive for naming a table for the soil is to make it clear to everybody that no hotbed, manure heap, or bottom heat of any kind is wanted for summer Cucumbers. A stage or floor would answer equally well, provided there is a free drainage for superfluous water. Plenty of fresh air, turf sods, liquid manure, cleanliness, prompt and thorough drainage, and painstaking are therefore the few and simple elements of success. Avoid deep pits or trenches. Avoid heavy or very fine soil; if you cannot procure turf mix a lot of broken bricks, mortar rubbish, and charcoal with some of your best garden soil. When the plant is in full growth pour on sewage by the gallon till it streams out of the bottom of the heap, and above all remove the fruit as soon as possible after it is fit for table. A dozen or two of full-grown fruit hanging upon a plant at once makes an immense strain upon its system, and if left on long exhaustion is pretty certain to follow, of which the effects will

be visible either in barrenness or in abortive fruit—curled, attenuated, and worthless.—EDWARD LUCKHURST.

CAPE HEATHS.—No. 7.

JULY.

If our readers have followed the instructions previously given and have used ordinary care in carrying them out their *Ericas* will now be forming bushy heads, for, although generally looked upon as slow-growing plants, they rapidly assume handsome proportions after about the third year. It will be well to set the plants in the open air now—that is, if they are not already removed from frames or pits, as by this system the growths become thoroughly hardened and vigorous.



Fig. 13.—*Erica Shannoniana*.

Care must be taken to water only during early morning or towards evening, as continual watering during the heat of the mid-day sun is sure to result in death to the plants, and yet we have seen this practice persevered in by men who consider themselves skilful plant-growers. When water is given let it be in such quantities that the whole ball of earth becomes saturated, for partial watering, we are assured by practice, is a fertile source of mildew. Again, do not place Heaths under the shade of trees: they do not require it, and often become injured by drip during a few days' continued rain, and their growth only becomes partially ripened. Soft or rain water should be used for watering these plants. If during drought this is not procurable the water to be used in the evening should stand fully exposed to the sun during the whole day. Some recommend the use of weak liquid manure for *Ericas*, and we have seen it applied beneficially to plants that are not wanted after the blooming season; but it should never be given if the plants are intended to live a number of years. The following kinds will be found a good selection for effect during July.

Erica ferruginea superba.—Leaves arranged in fours, linear obtuse, densely clothed on the edges with long, woolly, rusty hairs. Flowers in spreading whorls from the ends of the principal branches, cylindrical, with a swollen base and con-

tracted mouth; limb rather small, spreading; colour light pink at the base, passing upwards into a reddish purple.

E. Shannoniana (fig. 13).—This is a superb large-flowering species, bold in growth, and much-branched. Leaves arranged in threes, ascending, three-sided, and acuminate. Flowers produced in large terminal whorls; these are flask-shaped, delicate pink or flesh colour, saving at the contraction of the neck, where the colour is more intense; footstalks and calyx deep red; whole flower glutinous.

E. hyacinthoides.—A dwarf-growing, neat, and handsome species, now unfortunately very rare. The last time we saw it was in the gardens of Harrenhausen in Hanover, where so many of these beautiful old species were treasured up by the elder Wendland. It scarcely reaches 12 inches in height, much-branched, and densely furnished with stout, smooth, and shining dark green linear obtuse leaves. Flowers large and freely produced from the ends of nearly all the branches. They are arranged in fours, flask-shaped, the segments being large and spreading, whilst the colour is a beautiful soft rose throughout.

E. infundibuliformis.—A slender-growing, beautiful plant. Leaves linear obtuse, smooth, arranged in threes, and light green. Flowers erect, long, and slender, produced in fours upon short footstalks; tubes deep red, the broad spreading limb being white.

E. verticillata.—This is an elegant and extremely useful plant for all purposes; it is erect in growth. Leaves arranged in fours, linear acute, destitute of hairs, and dark green. Flowers produced in large pendant whorls towards the ends of the branches; they are about an inch long, cylindrical, somewhat square at the base, and brilliant orange red in colour.

E. jasminiflora.—Although somewhat straggling in habit this is, nevertheless, a very desirable species. The leaves are mostly arranged in threes, triangular, spreading, and dark green. Flowers mostly in threes from the ends of the simple branches, about 1½ inch long, cylindrical, with a swollen base, and a large, flat, spreading limb, the segments of which are cordate; tube rosy pink, the segments pure white.

E. incarnata.—A species now very seldom seen in collections, yet it is a small and compact grower, and very gay when in flower. It forms a dense much-branched plant some 12 or 18 inches high, the leaves being linear obtuse, quite smooth, arranged in fours and bright green. The flowers are produced in dense bunches upon the ends of all the branches, they are ovate with a contracted mouth; colour bright reddish pink.

E. vestita alba.—A rather tall-growing kind. Branches ascending. Leaves about an inch long, crowded, linear, arranged in sixes, and dark green. Flowers produced in large whorls near the ends of the branches, sometimes in double tiers. Flowers longer than the leaves, pure white, slightly downy.

E. vestita lutea.—Similar in habit to the preceding, but the leaves are more robust. Flowers produced in large and dense whorls; they are club-shaped, upwards of an inch long, slightly ribbed, and clear sulphur yellow in colour.

E. vestita fulgida.—A very highly coloured variety of robust growth. Branches erect. Leaves long, arranged in sixes, linear, smooth, and dark green. Flowers crowded near the apex of the principal shoots, upwards of an inch long, and rich bright red.

E. vestita incarnata.—This is scarcely such a strong-growing variety as the preceding. Leaves six to eight in a whorl, linear, erect, and very deep green. Flowers produced many together in crowded whorls near the apex of the main shoots; they are club-shaped; about an inch long; ground colour white suffused towards the apex with bright rose or flesh colour, rendering it a very charming plant.

E. vestita rosca.—Erect in growth, with simple branches and dark green leaves, which are linear obtuse, arranged in eights, and shorter than either of those varieties named above. Flowers crowded, an inch in length, and rich deep rosy colour.

E. vestita carnea.—A truly beautiful variety. Habit of growth erect as in the other kinds. Leaves linear, erect, slender, and pale green in colour. Flowers produced in crowded whorls towards the upper part of the branches, about an inch in length, and of a delicate flesh colour.

E. Irbyana.—The improved form of this species produced by the Messrs. Rollisson & Sons of Tooting is a most desirable variety. It produces long, simple, erect branches. Leaves somewhat triangular, armed at the point with a stiff bristle, the edges slightly toothed; colour deep green. Flowers in

large spreading umbels, upon long footstalks from the ends of the branches; they are upwards of an inch long, much swollen at the base, very sticky; the segments heart-shaped and spreading, white, tinged with flesh colour at the base.

E. Lindleyana (see fig. 12, page 87).—Leaves arranged mostly in fours, linear oblong, mucronate, ciliate on the edges, deep green, with a central white stripe on the back of each leaf; whorls large and terminal, tubular, deep crimson passing into white; the throat and limb vivid green.

E. Jubana.—A beautiful free-flowering plant, and of compact habit. Leaves in threes, flat on the upper side, keeled below, and dark green. Flowers produced upon very long, erect, red footstalks, in large umbels; they are much swollen at the base, with a contracted mouth and large spreading limb; the latter is white, whilst the tube is reddish purple.



Fig. 14.—*Erica ampullacea*.

E. droseroides.—An elegant species now but too seldom seen. It is a dwarf much-branched plant. Leaves alternate, linear obtuse, with recurved points, the edges densely furnished with glandular hairs. Flowers produced in large whorls upon the ends of the branches. These are reddish purple in colour, much swollen at the base with a contracted neck; segments somewhat small, spreading, and deep red; whole flower glutinous.

E. nitida.—A free-growing, densely branched plant of great beauty. Leaves in threes, short, linear obtuse, and deep green. Flowers somewhat ovate, terminal on all the small branches, in umbels of three to five, forming spikes 9 to 12 inches long; footstalks, calyx, and the whole of the flower beautiful snow white.

E. Coventryana.—This is a compact, low-growing, and much-branched plant. Leaves in fours, linear obtuse, bright green. Flowers stemless, and set in large clusters among the foliage on the ends of the branches; the tube is bright red, the spreading segments of the limb pure white.

E. ampullacea (fig. 14).—Our figure represents the typical plant, which is very beautiful; the ground colour is white or pale flesh, striped throughout with deep rose, the contracted neck being deep purple. In addition to this form the Messrs. Rollisson & Sons, who have done so much towards the improvement of this class of plants, have produced and sent into com-

merce three varieties—viz., *ampullacea elegans*, *ampullacea obbata*, and *ampullacea rubra*, all of which either in colour or size are great improvements and should be looked after by lovers of *Ericas*.

E. metulæflora superba.—This improved form of the species is much easier to grow than the normal form through not being so liable to mildew. Leaves in fours, linear obtuse, slightly hairy on the edges. Flowers in terminal whorls, wholly deep reddish crimson, saving the circle round the throat, which is deep purple.

E. obbata exposita.—This is a very grand variety, the result of much labour and care. It originated in the Tooting Nurseries, and has been put into commerce this spring for the first time. Leaves mostly in fours. Branches slender, bearing large terminal whorls of very large flowers, which are much swollen at the base and pure white. Limb large and spreading, and also pure white. These flowers retain their beauty and purity of colour a very long time, as they are entirely destitute of the gummy secretion which is so characteristic of the hardwood *Ericas*, and which soon renders them dull, and in the neighbourhood of towns oftentimes very unsightly.

E. Dennisoniana.—This is another of the Messrs. Rollisson and Sons' gumless seedlings which cannot be too highly recommended. Leaves arranged in threes, linear obtuse, dark green on both surfaces. Flowers produced in terminal whorls and much swollen at the base, where they are tinged with carmine, the rest of the flower pure white; limb large and spreading.

E. venosa.—Leaves arranged in fours, linear obtuse, slightly reflexed, dark green. Flowers much swollen throughout, colour rosy crimson; segments of limb white.

E. tricolor profusa.—A superb variety, and another of the Tooting seedlings. It is very compact in habit, and an abundant bloomer. Leaves arranged in fours, linear obtuse, mucronate, and densely fringed with long hairs at the edges; colour deep green. Flowers terminate the branches, produced in whorls of great size; they are large and tubular, with a swollen base, colour deep rich rosy carmine passing into white, the contracted neck being encircled with green, whilst the tips of the segments are white.

E. Fairrieana.—A slender branching kind of great beauty. Leaves arranged in fours, linear, mucronate, and fringed with short hairs at the edges, green above, with a central pale band on the under side. Flowers large, in terminal whorls of from eight to twelve, much swollen at the base, where the colour is rosy carmine, passing upwards into pink, the contracted neck deep crimson; limb reflexed, pinkish white.

E. insignis.—A bold-growing kind and a profuse bloomer. Leaves arranged in fives, oblong obtuse, fringed with hairs on the edges and pale green. Flowers in large terminal whorls, somewhat short, but stout; colour dark rosy carmine at the base, contracted throat, dark purple; segments of the limb white.

NOTES AND GLEANINGS.

WE are informed that the principal feature of next Tuesday's FLORAL MEETING at the Royal Horticultural Society will be a fine display of Tuberous Begonias in flower from Chiswick and some of the leading nurserymen.

—AT the present time there is nothing more beautiful in Battersea Park than *YUCCA FILAMENTOSA*. Plants of this free-flowering *Yucca* at "Alpine Point" (which is this year more attractive than ever), also on the elevated ground near the artificial rocks, attract the attention of all visitors. The Swamp Lily of North America has recently been flowering grandly in a pot plunged in a swamp on the lawn; from this pot were twenty flowering stems bearing in the aggregate nearly two hundred flowers. It is the finest example of this beautiful Lily that has come under our notice. The Tree and other exotic Ferns and tropical plants, and the well-filled carpet beds have now crowds of admirers, and the Park altogether, which will soon be at the zenith of its beauty, has never looked better, if so well, as during the present summer.

—“W. J. M., *Clonmel*,” writes to say he has just been shown a *CONE OF THE ARAUCARIA* or Chili Pine by Mr. Sheeley, head gardener to Miss Malcomson, Melview, near that town, which is perfectly globular and covered with prickly scales, and weighs about 3 lbs. It was produced by a tree estimated at forty years old, and never produced one before. When trees commence coning they usually continue producing seeds. Plants of the *Araucaria* have been raised from seed produced

in this country, and probably the cone referred to contains fertile seeds.

— **APPROPOS OF JUDGING AT EXHIBITIONS** the Rev. C. C. Ellison has sent us a leaf from a book that was handed to him as a Judge at the Caythorpe Flower Show, and which is the invention of Mr. Palmer, the Secretary of that Show. Two-thirds of the leaf constitute a prize card that is torn from the counterfoil and placed on the exhibits when the prize is awarded. The judge holds the book and writes the winning number on the prize card and counterfoil, an assistant writing the name of the exhibitor on the space provided therefor on the card severed from the book. As observed by Mr. Ellison, mistake is impossible, as if the card were removed the counterfoil would show the winner. Where judging is done under number, as is the case at many local shows, the Caythorpe plan is simple and expeditious. The card is, however, too small for large exhibitions, and space for the names and addresses of both owner and gardener is not provided.

— **A VERY** prolific and close-growing FIG may now be seen in Messrs. Osborn's Fulham Nurseries. It is now being sent out under the name of **OSBORN'S PROLIFIC**, an appropriate name, for plants growing in small 32-sized pots and looking remarkably strong and healthy are bearing five and six fruit each, besides showing a dozen others as a succeeding crop. Vines in pots, too, are looking extremely well, and are ripening their strong canes rapidly.

— **MR. ADDISON** says that he saw a quantity of the **JAMES VEITCH** variety of **STRAWBERRY** at the Show in Edinburgh on the 10th ult., sent from Mr. Dunn, Dalkeith Park, and they far surpassed in size any he had ever seen. Mr. Dunn writes that it is a first-class sort. He gathered some fruits 3 ozs. and 3½ ozs. in weight.

— **A BRENCHEY** correspondent has sent us an example of **ABNORMAL GROWTH IN THE POTATO**. The stem, which is stout, not only contains tubers at the axil of every leaf, but even the flower stalk is surmounted with a small aerial tuber from which a cluster of malformed flower buds issue. We have often seen tubers produced by the stem above ground instead of on that portion below the surface, but never in such a marked manner as in the example before us. It illustrates in a practical manner the fact that the tubers are really an integral part of the stem of the plant, but we cannot account for their formation in the air instead of in the earth. Probably the plant has received a check by some cause or other during its early stages of growth. No tubers formed in the soil, but the whole crop is borne by the stem. Some of them are of good planting size and shall be planted. A portion of plant bearing aerial tubers has also been sent to us from Itchingfield Rectory, Horsham.

— **MR. MURRAY**, the head gardener at Peniarth, and the under gardener, on Saturday last found a plant of the tropical Fern, **PLATYCEBIUM ALICORNE**, growing upon the Cader Idris range of mountains in Wales. Some years since persons from the gardens of Penrhyn Castle discovered the same Fern at Llyn Idwal, and we understand that it was also found upon the estate of a nobleman in the north of England. The plant recently discovered is a young one, and has been brought to Peniarth in good condition.

— **THE NE PLUS MEURIS PEAR**, writes a practical gardener, is very prolific this season. To have it in perfection the fruit ought to be freely thinned, for being produced in great clusters unless well thinned it is comparatively useless. All kinds of Pears are improved by judicious thinning, but none more so than the Ne Plus Meuris, the core being so large that small fruit may be said to consist of little but core and skin, and in this state are certainly not fit for the table. A good dish of this variety in January and later is sometimes very useful.

— **A CORRESPONDENT**, "E. H.," desires to know where **CHIPPED GRANITE** or **MARBLE** can be obtained for forming garden paths. We shall be glad if any of our readers can supply the information.

— **DWARF KIDNEY BEANS** are again very prolific, one grower near Grays, Essex, having already sent upwards of four hundred sieves to the London markets. The Scarlet Runners, where liberal treatment was given in the first instance, are bearing freely, but the late extremely hot and dry weather has proved more prejudicial to them than to the dwarfs. The genial showers now falling will soon have the effect of stocking the markets, and it is to be hoped they will realise more remunerative prices than has lately been the case

with Peas. With the latter the prices have been so low that many growers gave up picking, the prices obtained not paying for the labour. The supply of vegetables at present apparently altogether exceeds the demand, and the growers are consequently having a bad time of it.

— **WE** learn that the Show of the **ROYAL HORTICULTURAL SOCIETY OF ABERDEEN**, held on the 25th ult., was both extensive and excellent. Mr. Roberts, gardener to John Laing, Esq., Granton Lodge; Mr. Forrest, gardener, Haddo House; and Mr. Middleton, gardener, Balgownie Lodge, secured the prizes in the specimen plant classes with admirable examples of culture. Ferns were remarkably well staged by Mr. Hadden, gardener, Denmore; and Mr. Grigor, gardener, Sunny Bank, who were awarded the chief prizes, and other cultivators. Roses were good, the silver cup for twenty-four blooms being won by Messrs. Cocker & Sons. Fruit was well represented, the first prize for a collection being secured by Mr. Farquhar, gardener to Col. Gordon of Fyvie for superior produce. The chief prizes for Grapes were won by Mr. Ogg, gardener to Sir W. Forbes, Bart., Fintray House; Mr. Farquhar; and Mr. Proctor, gardener, Slains Castle, who all staged good and well-finished bunches. For the largest Strawberries, a dish of fifty, the first prize was awarded to G. J. R. Gordon, Esq., Ellon Castle (Mr. Wilson, gardener), for Eclipse, immense cockscomb-shaped fruit. For four dishes the first prize was awarded to Mr. J. Mortimer, Rubislaw, for President, Myatt's Seedling, Sir Joseph Paxton, and Oscar. Vegetables were of splendid quality and in great abundance, the first prize for a collection of ten kinds going to Mr. Ogg. The Show was well managed by Mr. Rennie, the Society's able Secretary.

— **RIPENING OF GRAPES AFTER REMOVAL FROM THE VINE**.—In the *Gazetta chimica Italiana* some experiments by M. Pollacci are described, in which he finds that the process of ripening continues for a certain time after the Grape has been removed from the parent plant. The bunches of fruit removed were, as far as possible, equally divided, and the quantity of glucose and acid determined in the freshly gathered Grapes, as also in portions kept in the shade for some ten or twelve days. In all the portions which had been kept the glucose had increased, whilst the amount of acid had diminished, showing that a certain amount of ripening action had taken place; this action, however, ceases after a time, the ripening never attaining full maturity.

FRUIT IN THE UNITED STATES.

THE last issue of "Scribner's Monthly" contains an interesting account of a new American industry. The extraordinary fecundity of the United States in the matter of fruit is proverbial, but it may not be generally known that three million Peach trees bloom every spring on the sunny plains between the Delaware and Chesapeake Bays. The details of the American fruit crop almost savour of romance. The Apple crop of that country is past counting; the surplus fruit, if properly saved, would keep all Europe in table luxuries. The birds on New Hampshire hills are feasted with Raspberries, the mountains of North Carolina and Tennessee are purple with Blackberries which go to waste, and the time has been when an extra good crop of Peaches in Delaware has meant a million baskets of fruit untouched upon the trees. For many years there was a great waste of fruit in the States, but by a process now adopted a large per-centage of the growth is saved and rendered useful.

Several of the States now produce sliced dried Apples and Peaches, delicately coloured from light straw to pale flesh colour. In Tennessee, North Carolina, and Georgia are to be seen at the farmsteads rows of boards tilted up to the sun and covered with sliced fruits. The first improvement in drying fruit consisted of covering it with glass. The fruit was put beneath sashes, in which holes were cut to produce a current of air; the fruit was spread on trays in the full sunlight, and the glass kept out the rain, birds, and insects. Stoves succeeded to sashes, and then came drying closets. But best of all is a portable iron stove or drying machine, costing about \$70, and serving to dry all kinds of fruit in a better manner than the wooden stoves. "A fire is kept up in the fire-box at the base, and above it are moveable shelves for Apples, Peaches, berries, corn, Grapes, or other fruits or vegetables. A constant stream of hot air passes through the apparatus, sweeping across the trays of fruit, and quickly extracting all their moisture."

In the level peninsula between Chesapeake Bay and the Delaware Peach trees stand in rows a mile long, luxuriating

in a warm and mellow soil and a genial climate. There are forests of twenty thousand trees standing in firm and stately lines. A little has been done in the way of exporting dried fruits to England and Europe, but judging from her unparalleled yearly riches America might do much more in this direction.

FOSTER & PEARSON'S PATENT SLOT THROTTLE VALVE.

WE direct attention to the above valve, which is adapted to all the purposes for which the ordinary throttle valve is now used in regulating the flow of water, steam, gas, &c. The following are among its advantages:—The working parts of the valve can be readily removed and repaired without disturbing the body of the valve. The valve seat in which the brass wing works forms part of the valve, and has not to be removed, thus reducing the size of the joint of the cap or cover materially, and lessening the chance of an unsound leaky

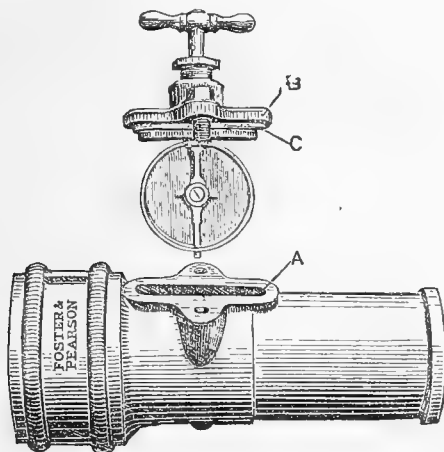


Fig. 15.—Foster & Pearson's Patent Slot Throttle Valve.

A, Valve socket. B, Moveable cap. C, Indiarubber ring for rendering the valve secure.

joint when refixed. The valve cap or cover is secured by two screws in the top of the valve, and can be easily removed in any position in which the valve handle can be reached. The importance of this will at once be seen in the case of valves fixed under the floors of buildings and in other positions where it is difficult to get at the sides or bottom of the valve.

A frequent cause of damage to throttle valves is their being turned the wrong way by those who have charge of them. This is prevented in the valve under notice by means of a small pin working in the collar of the valve spindle, which renders it impossible to turn the valve wing past the centre when opening it.

NOTES ON VILLA AND SUBURBAN GARDENING.

A FORTNIGHT or more of tropical sunshine has afforded everyone a chance of destroying the numerous weeds which only a few weeks since were a great trouble in every garden, and if the hoe has been busily engaged none ought now to be remaining. Within the last few days rain has fallen in several localities, which was much needed; the excessive heat was beginning to be felt on light soils, while on heavy land the surface had become so baked that it was with great difficulty that a spade or a fork could break it.

Fruit trees on walls require going over, and to have the shoots secured to the wall, stopping any foreright or gross shoots. Gross wood in Peach or Nectarines is not wanted, and where any growths are taking the lead nip the points out, which will not only stop their progress, but will disperse the flow of sap regularly throughout the weaker-growing shoots. Water liberally all trees on walls, plying the garden engine frequently over the foliage in the evenings after hot days. Thin any crops that are too heavily set, and expose the fruit as much as possible to the sun, to gain both colour and flavour. Net Morello Cherries, both standards and those growing on walls, for the fruit will be useful for many weeks to come. Those trees growing on walls are most easily protected from birds; merely fastening the nets at the sides and ends, and placing a few forked short sticks at intervals throughout the entire length, will enable the nets to project a sufficient distance

to puzzle the most artful of birds from getting their bills through to peck the fruit. Standard or bush Cherry trees are not so easily and effectually netted, and great pains must be taken to make every connection secure, or blackbirds and thrushes are almost certain to disturb the nets sufficiently to make an entrance. These birds are most partial to Cherries.

Proceed with the budding of Roses as fast as possible, and if the weather is dry on light soils it will be necessary to give plenty of water and mulchings to assist the buds to take freely. Roses have made a very free second growth, which is just now furnishing a very fine supply of blooms, and from these shoots any amount of buds will be procurable. Roses in pots must be plentifully supplied with liquid manure to assist them to make firm and strong growths early, which is so necessary for next year's bloom.

Pinks, Picotees, and Carnations ought now to be layered if it is desired to increase the stock of these long-cherished and old-fashioned flowers. Begin by thinning-out any weakly growths, then remove just a few of the leaves near the base of those remaining, and with a thin-bladed knife split the stem about half an inch below a joint where the leaves were removed. Place some light soil around the plant or stool, and peg out each layer regularly with a wooden or metallic peg. Give a good watering from a rose watering can and the layers will soon emit roots, when they may be taken off and finally transplanted to their blooming stations. Pick off all flowers from Campanulas as they wither; these if kept constantly gathered without being left to swell their seed pods will throw out a second supply of flowers, which will add to the beauty of the herbaceous border later on in the season. Stake Dahlias, Hollyhocks, and Gladioli before there is any danger of their being blown about and broken off by the winds. Increase spring-flowering bedding plants. Pansies will increase most readily now by inserting cuttings thickly under a handlight, the blue and yellow selfs are most suitable for masses in beds or for lines on borders.

Sow the various kinds of *Silenes*, *Myosotis*, *Nemophila insignis*, *Saponaria calabrica*, and *Limnanthes Douglasii* and grandiflora in an open piece of ground, and water frequently if dry weather continues. If sown at once they will make strong plants for lifting and transferring to the flower beds on removal of the summer occupants. Daisies and Polyanthus that were laid in temporarily in the reserve garden at the time when the summer bedding plants were planted should be increased by division and receive bountiful supplies of water. These are amongst the earliest of spring-blooming plants, and ought to be used more extensively than they are.

The beauty of the flower garden has been greatly enhanced by the recent warm weather. Geraniums, &c., are now blooming well, and the plants used in carpet bedding have not only grown well but the colours are fairly good. Most of these high-coloured-foliage plants improve by frequent waterings overhead, and where the soil is of a dry and gravelly nature we give it a slight covering of cocoa-nut fibre, which not only removes the unsightliness of the soil, but brightens and better defines the separate colours. Coleus, Pyrethrums, and many other such-like foliage plants require pinching and clipping to keep all the colours at a uniform height and distance, and have the edges of the beds frequently clipped. Attend often and regularly to all these little requirements, for the summer months are fast fading away, and before long the flower garden will be again shorn of its beauty.

Under glass there is a breathing time. Vines are finishing the swelling of their crops, and Peaches and Nectarines are fast approaching to maturity. The conservatory is gay with many stove plants, and the hardwooded greenhouse plants which have done flowering will be benefited by being placed out of doors on a partially shaded border, the night dews and refreshing rains being highly beneficial to their growth. It is the only season of the year when greenhouses may be made empty with ease, and this affords an excellent opportunity for cleaning the plants, for repairs, painting, and other requisites. Pelargoniums that have been placed out of doors to ripen should be cut-in, the tops being made into cuttings and inserted for an increased next year's supply, the plants, after having made a little fresh growth, being shaken out and repotted into smaller pots.

Cucumbers and Melons in frames require regulating and frequently watering overhead before closing on warm days. Cucumbers if planted now on a fresh bed of manure will furnish a late supply of fruits.

Sow herbaceous Calceolarias at once, and shift-on Cinerarias and Primulas as their pots become filled with roots. Calceolarias and Cinerarias thrive best in a cool temperature. A frame turned to the north instead of facing the south is a suitable place for them. Keep the plants somewhat shaded and close during the day, but the lights may be drawn fully off at night, and the plants will be benefited by the heavy dews. Pot Cyclamens, and shade them from bright sunshine until new growths are made. Sow Intermediate Stocks for flowering in pots and planting-out next spring. Geraniums that have recently been potted for winter blooming should have liberal treatment, and all blooms picked off until the end of September; other plants may be cut back at once, when they will break and be useful later on. Chrysanthemums should

be tied to supports, and as the growths are made they should be secured, or they are apt to snap at the joints. Specimen plants require to be tied out with small sticks, but plants grown for their quality of bloom are best secured by an improvised trellis, which prevents the wind from blowing the pots down.

WORK FOR THE WEEK.

KITCHEN GARDEN.

THE recent hot weather has done much to forward many crops that from the cold state of the soil were backward, such as dwarf and runner Beans, Vegetable Marrows, ridge Cucumbers, and Tomatoes; but Peas, Cauliflowers, &c., have been distressed by the drought where no waterings and mulchings have been resorted to. In hot weather vegetable crops can hardly have too much moisture at the roots. Celery especially should have an abundant supply of water and liquid manure, a good watering being afforded all crops that are liable to suffer from drought once or twice a week; mulching afterwards with short manure cannot fail being beneficial. Peas and all pod-bearing esculents ought to have the pods gathered so soon as they become fit for use, as allowing them to remain upon the plants speedily checks the growth, preventing successional gatherings being had from the same plants. Ground should be at once made ready for the main crop of autumn-sown Onions, winter Spinach, Cabbage, and Lettuce. We prefer to sow them from the 8th to the 12th of this month, having the ground prepared previously by giving a good coating of thoroughly decayed manure and digging it deeply in. Continue planting out late Broccoli, Savoy and Winter Greens of all kinds as ground becomes vacant. Lettuces soon run to seed in hot weather; keep them cool, therefore, by watering and mulching with short manure and watering the whole surface of the ground occasionally.

FRUIT HOUSES.

Pines.—Houses as they become vacant should be thoroughly cleansed before being again occupied with plants. The first thing to be seen to is the bed. If bottom heat be afforded by hot-water pipes, the material forming the bed, whether of tan or leaves, should be removed at least once a year, or insects, particularly woodlice, rapidly increase: the old material also harbours other predatory vermin. All brickwork should be brushed over with hot lime, the wood and ironwork thoroughly cleansed with soap and brush, keeping the soapy water as much as possible from the glass, which ought to be cleansed with water only. If needed the wood and ironwork should be painted. Beds that are chambered—i.e., the hot-water pipes covered with slates or other material, are very much in advance of those surrounded or passing through beds of rubble. Those composed of the latter should be turned over, and any dirt or small parts removed to allow the heat given off by the pipes to penetrate through the whole and diffuse uniform temperature to the bed. New material will be required for the bed. Fresh tan should be provided, of which 3 feet in depth is ample where pipes are placed beneath. If it be wet turn it over occasionally on fine sunny days. Suckers that were started in June will soon have filled the pots with roots, and should be shifted into larger pots before the roots become very closely matted together. Queens should have 9 and 10-inch pots, and those of stronger growth 11-inch pots. Water immediately after potting, and plunge in a bed having a temperature of 90° to 95°. There is no greater mistake in growing Pines than crowding young plants. The plants become drawn and weakly instead of having a sturdy base, a condition that should always be aimed at. Attend to the bottom heat of beds that have been recently upset by the removal and replacing of plants, not allowing the heat to exceed 95° at the base of the pots without immediately raising them, as too much bottom heat will disastrously affect plants with fruit or those having the pots filled with roots. Look over the plants for watering about twice a week, and maintain a moist, genial, well-ventilated atmosphere. The climatic influences are now so favourable that Pine plants grow luxuriantly; therefore discontinue any shading such as may have been employed for an hour or two at midday when the sun was powerful through the months of May, June, and July; the plants after this having the benefit of every ray of light, admitting air plentifully when the temperature ranges from 85° to 95°, affording to fruiting plants a night temperature of 75° to 70°, and successions 70° to 65° at night. Reserve, if possible, another batch of suckers on the stools for starting at the commencement of September.

Melons.—The weather has been of late all that could be desired for Melons, especially late crops in frames, which have set and are setting remarkably well, it being a notable feature that late Melons on dung beds grow very luxuriantly, and unless the foliage be kept thin the fruit sets very indifferently, and after setting refuses to swell. Some growers object to the use of the knife about the plants whilst the fruit is setting, but we hesitate not to cut out superfluous growths whenever the necessity for it arises, and with the best results. A crowding of the foliage tends to nothing but disaster. The blossoms do not set well, the fruit swells badly, and, worse still, they have large seed cavities, are hollow, and have neither weight nor quality. Copious supplies of water are neces-

sary to plants swelling the fruit about twice a week, with a sprinkling overhead at closing time, those in houses being well syringed both ways in the afternoon, and a good moisture maintained by sprinkling the floors, &c., two or three times a day. Do not neglect to impregnate the flowers daily of plants now in bloom, and to go over the plants frequently for the stopping or removal of superfluous growths. Keep the atmosphere dry when the fruit is ripening and setting, maintaining a bottom heat of 80° to 85°, top heat 70° at night, 75° by day, in dull weather admitting a little air at that if the day be likely to be fine, allowing the heat to rise to 80°, then admit more air, increasing the ventilation with the increased temperature up to 85° or 90°, closing at 80°. A free circulation of rather dry warm air greatly improves the finish and quality of Melons when near upon ripening.

Cucumbers.—Any frames that are at liberty may yet be planted with Cucumbers upon a bed of fermenting materials, which will give a supply of fruit in September, and continue up to near Christmas if due regard be had to lining the bed and to protecting the plants by mats over the lights at night in cold weather. Let plants in frames or houses be cut over at least once a week, removing exhausted growths to make room for young bearing shoots. Keep the shoots well stopped to one joint beyond the fruit, or at the fruit if the plants are vigorous and showing no signs of exhaustion. Maintain a steady root-action by the necessary bottom heat and due attention to watering two or three times a week, affording the temperature top and bottom as given for Melons. Syringe both ways in the afternoons of bright days and close early, but avoid late syringing, for the foliage should be nearly dry by sunset, and commence ventilating early, it being important that the foliage be not powerfully acted on by the sun without ventilation accompanying, or the leaves will in all probability be scorched. The autumn fruiterers should now soon be planted on ridges or raised hillocks moderately firm, maintaining a moist and genial atmosphere, and they will grow away freely and show fruit in plenty shortly.

FLOWER GARDEN.

This is now expected to be at its best. Every possible attention should be given to have all the surroundings in the best order; nothing tends so much to disfigure a place as weedy beds, borders, and walks. Weeds should be combated in the small or seedling state. Ragged edgings are equally objectionable, and should be frequently gone over with the shears, and the whole surface of beds and borders where available should be given a neat appearance. It is hardly necessary to point out the necessity of keeping walks well rolled, and the lawn smooth by cutting with the machine as frequently as occasion may arise, but avoid cutting very close in bright weather, as it will have a tendency to brown the grass. Let the machine be set high in hot dry weather so that any uneven growths of grass only may be cut. Border plants should be attended to in staking and tying as they advance in growth, removing at the same time dead flowers and seed pods from such plants as are going out of bloom, for want of which attention herbaceous borders often have a neglected appearance.

Pipings of Pinks may still be inserted, and any that are rooted should be potted off in pairs in 3-inch pots placed on ashes in a cold frame. Until the potting is recovered from shade the plants from bright sun, and then admit air fully. If hardened off when well rooted they may be planted out where they are intended to bloom. Carnations and Picotees if not yet layered should be proceeded with, and seed may be sown in pans placed in a cold frame. The summer bloom of Roses is now nearly over; all straggling shoots should be cut back without delay, all faded blooms and seed pods be promptly removed, and every encouragement be given the plants by watering them overhead in dry weather and copiously at the roots, mulching the soil afterwards. Suckers from the roots and robbers upon the stems of standards must be removed as they appear. Continue inserting buds. Those inserted early will soon be sufficiently forward to have the ties loosened or entirely removed. Dahlias, Hollyhocks, and other gross-feeding plants will require abundant supplies of water in dry weather and manure water, but mulching is preferable, as it insures surface-rooting. Tritomas, Pampas Grass, &c., are liable to suffer from drought, and should be assisted with copious waterings. Nothing answers so well as mulching the surface of the beds and borders in which plants are grown that require abundant supplies of water, as all flowering plants do in a period of drought, the mulching saving watering, insures more regular moisture, attracts the roots to the surface, where they feed directly upon the matter supplied to them. More particularly is this the case with dwarf Dahlias, Asters, Stocks, Zinnias, and other descriptions of plants free in growth and affording large flowers in quantity.

The subtropical plants should be attended to in staking and tying betimes, and be abundantly supplied with water, particularly gross feeders, such as Cannas, Castor-oil plants, and Wigandias. Carpet beds should be regularly trimmed, for which they well repay, being always bright; the heaviest rain does not take the colour out of them, and hot dry weather only heightens their beauty. The finest beds we have seen this year were carpet beds, which were kept in fine order by pinching and stopping twice a week.

Clematis and Tropæolums will now, if they have been well attended to, be in great beauty, and should have attention in respect of training for some time longer, which is essential to their pleasing appearance in dressed grounds; but where they are planted to cover old stumps and trunks of trees, or spreading on and overhang rock or nooks and corners where they can be accommodated with a few sticks to afford support, anything like trimness should be avoided, only slight training may be resorted to for the better securing of the object sought.

The propagation of bedding plants for another season must now or soon have attention. Pelargoniums that are cultivated for the beauty of their leaves should be propagated forthwith, inserting three or four cuttings in a 3-inch pot placed on ashes in a cold frame, but with the lights off, yet in readiness to afford protection from heavy rains. This applies more particularly to the choice moderate-growing varieties, but any free growers as well as the green-leaved varieties strike freely inserted in poor soil in the full sun, taking them up and potting when well rooted. If stock plants of such as *Alternantheras*, *Coleus*, *Iresine*, &c., were not reserved for propagating from cuttings should be struck at once, so as to have strong well-established plants by autumn, without which they cannot be expected to winter satisfactorily. Those fortunate enough to have a reserve garden will find the benefit of it now, as it is, to say the least, annoying to be cutting the plants in the flower garden directly they begin to fill the beds; and unless carefully done unsightly gaps are made and a quantity of bloom removed, which is undesirable, and with a reserve garden unnecessary.

PLANT HOUSES.

Stove.—*Toxicophlæa Thunbergii* and *T. spectabile* are very desirable plants, not unlike a *Gardenia* in growth, the flowers borne in corymbs like an *Ixora* but much smaller, white, and deliciously fragrant, a few flowers scenting a large house. They do well in sandy peat, and must not be overpotted. They flower freely in a small state. Young plants of *Gardenias* that were struck about this time last year or early this spring will need a shift into 8 or 9-inch pots, according to their strength, which should be given at once, as nothing injures young plants so much as allowing them to become root-bound. If a batch of plants well set with buds and which have been rested for a short time be placed in bottom heat and afforded a brisk moist top heat they will come in useful when flowers are becoming scarce.

Gloxinias as they go out of bloom should have water gradually withheld, and when the tops go off place the pots on a moist bottom, where there is a temperature of about 45°, in which they winter safely. Late-flowering plants should have a position near the glass shaded from bright sun and be well supplied with water, liquid manure being given after the flowers show. *Achimenes* should not be dried off too quickly, as is too often the case, but must have water to prevent severe flagging. Plants in flower are the better of shade from bright sun, but anything like gloom is not promotive of sturdy growth and free flowering; therefore keep plants for late bloom near the glass with no more shade than to prevent scorching, affording them weak liquid manure, and staking and tying as required. *Tydas* should have every encouragement to make a good growth, with similar treatment to *Achimenes* as to light, watering, &c. *Gesnera exoniensis*, *G. zebрина*, and *G. zebрина splendens* coming on for winter bloom must have a position near the glass to keep the growths sturdy and the leaves in good colour, affording them water copiously, but avoid overdoing it, which is as bad or worse than overdryness. *Gesnera Cooperi* and *G. Donkelaari*, and others of that section coming on for second bloom should be encouraged with weak liquid manure, and kept in a light position.

Francisæas that have completed their growth should be removed to a cooler and drier house to firm the wood. Any early-flowered plants that have made a good growth and been exposed to light may be kept cool and airy for a few weeks, then if placed in brisk moist heat they will come into flower in late September and October, and be very acceptable.

Allamandas and *Dipladenas* that have been for some time in bloom will have the flowering prolonged by copious supplies of liquid manure about every other time they require watering. These and other climbers of free growth planted out should have free waterings with liquid manure. *Æschynanthus* plants in suspended baskets or suspended pots must not lack for water, but an excess is equally pernicious, both extremes causing them to cast the flowers. Few plants equal them in late summer and autumn, it being remarkable that they are not more frequently seen.

All winter-flowering plants, such as *Plumbago rosea*, *P. coccinea superba*, *Poinsettia pulcherrima*, *Sericographis Ghiesbreghtiana*, *Æranthemum pulchellum*, *Aphelandras cristata*, *aurantiaca*, *aurantiaca Roelzii*; *Euphorbia jacquiniæflora*, *Centropogon Lucyanus*, *Thysacanthus rutilans*, &c., should be encouraged to make strong growth by keeping them near the glass, or where they will receive plenty of light in a growing temperature, syringing them every evening to keep thrips and red spider under. The last pinching should now be given to *Euphorbia jacquiniæflora*, as, if deferred until late, the growths will be weak and will not flower satisfactorily.

Stove plants during hot weather require abundant atmospheric moisture, syringing morning and afternoon, the latter at about 5 P.M. or earlier, being regulated by the time of closing, as it is desirable to have the foliage mainly dry before nightfall. Admit a little air at 75°, increase it with the temperature after 80° is reached, running up to 85° or 90°, and close at 80°, and if it rise to 85° or 90° from sun the plants will enjoy it.

TRADE CATALOGUE RECEIVED.

Henry Boller, 73, South Row, Kensal New Town, London, W.—*Catalogue of Succulent Plants.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

WINDOW GREENHOUSE (S. S.).—We cannot recommend any tradesmen. Refer to our advertising columns.

WILLOW FENCING (G. Stenson).—It would not injure cattle that ate its leaves.

ADDRESS (A Lover of Rose Shows).—Write to Mr. Duffield, ironmonger, Slough, who can, Mr. Turner informs us, supply you with what you require.

DISEASED LEAVES (C. V.).—They are all mildewed. The only remedy is the repeated application of flowers of sulphur.

SWEET WILLIAMS AND ANTIRRHINUMS (W. C.).—The flowers of the *Dianthus* are diversified in colour and represent a good strain. The *Antirrhinum* are varied, and similar to those you have previously sent to us, and of which we have spoken approvingly.

VARIOUS (Cricket).—Sprinkle Scotch snuff over the haunts of the crickets. Add some sandy soil to the clayey herbaceous border, and the same sandy soil would suit the *Lilies* in the low ground. We cannot name a plant from leaves only.

STOVE, GREENHOUSE, AND HERBACEOUS PLANTS (W. M.).—Consult the nearest florist, who will know your houses, &c.

MIGNONETTE CULTURE (Cambusmore Mound).—Enrich your light sandy loam with a heavy dressing of manure, water thoroughly in dry weather, and you will have no further trouble. The browning of the foliage and premature decay of your *Mignonette* is caused by poverty of soil, and probably also by drought. *Mignonette* loves a generous diet and well repays us for it.

GROWING GRAPES WITHOUT ARTIFICIAL HEAT (W. M. G.).—"LINCOLNSHIRE GARDENER" is quite right and you may safely follow his advice. The note by "PRACTICALIST" should be regarded by you as a scientific hint to growers of delicate Grapes in what are termed late vineries. So regarded it is really valuable and does not clash with that of our other correspondent. Only take care to plant hardy sorts of proved excellence, to afford a free and abundant circulation of air among foliage and fruit, and you will have very little loss from scalding.

CUCUMBERS PRESERVING (J. R. S.).—We do not remember the notes on preserving them in the earth.

ROSES (J. S. M.).—We know of no book such as you name. Our "Garden Manual" contains full directions.

GERANIUM LELEGANTE NOT FLOWERING (A Constant Subscriber).—The paucity of flowers is attributable to one of two causes—smallness of the plants, or richness of the soil, or to both in combination. In very rich soil growth is always made at the expense of blossom. Take the cuttings for next season's stock as soon as possible, give the young plants rich soil while in pots to induce a free growth during winter and spring, but let the soil of the flower bed in which you plant them next summer be poor, and you will no doubt have plenty of flowers.

CYCLAMENS AFTER FLOWERING (Idem).—They require a partial rest, but not by any means a drying-off, a cool shaded place outdoors being suitable for them. When signs of growth appear the plants should be repotted, removing carefully a good portion of the old soil, and potting in pots the same size as before or slightly larger, using light turfy compost; afterwards place in cool frames, or the plants may be planted out in rich light soil and potted in September. They do not usually improve after they have flowered for four or five years, and it is advisable to raise a few plants from seed every second year to insure a stock of vigorous plants.

THRIPS ON CARNATIONS (D. G.).—We cannot suggest any better means of driving the insects from the flowers than syringing them copiously and frequently with pure water. The application of an insecticide would either injure the blooms or spoil their perfume. Thrips are seldom prevalent in showery weather, hence we advise syringings to be applied early in the morning and again towards evening.

AUCHUSA ITALICA (Idem).—This hardy border perennial is readily increased from seed, which should be sown at once in the open border, the seedlings being transplanted 6 inches apart as soon as they are large enough to be handled, and subsequently planted in their blooming positions. The plants may also be increased by root-division in the autumn. Incorporate leaf soil, lime rubbish, or any gritty matter, also soot, with the strong soil of your border, and you will succeed in growing herbaceous plants well.

LIQUID MANURE FOR VINES (J. W. L.).—As your Vines were planted this year in a new border 14 feet wide, we do not think they require any liquid manure. Assuming that the border is good and the Vines in a fair degree healthy, the one bunch on each Vine will not be exhaustive. We do not approve of inducing a succulent growth by the application of stimulants when the Vines are young, but prefer moderately strong, short-jointed, hard canes with prominent buds. As your Vine border is inside soak it thoroughly with pure water. If you are anxious to try a stimulant, mix half an ounce of guano in each gallon of water and apply immediately after

it is mixed, but unless your Vines are weak we do not advise any such application this year.

INSECTS ON MELONS (*A Subscriber*).—The leaves sent contain evident traces of red spider and slight traces of thrips. As the plants are trained to a trellis overhead you need have no difficulty in cleansing the leaves and securing a crop of fruit. Syringe the plants thoroughly twice a day, except a period of dull weather occur, when once a day will be sufficient. Apply the water directly to the under sides of every leaf with some force, taking care, however, not to injure the foliage. Do this until several flowers commence expanding, then keep the plants drier until the fruits have set, then syringe as before until they approach the ripening stage. Keep the roots healthy and well fed. Pinch the laterals as they grow, not letting the growths become tangled and crowded, and then having much to cut out at one time. Ventilate early and close early. Do not let the minimum night temperature fall below 65°, and in due time you will have good fruit.

NAMES OF PLANTS (*J. M.*).—No one can name a plant from the fragment of a leaf, and the frond has no spores. (*L. H.*)—It is an Aloe, but we are unable to name the species from the scrap of leaf sent. (*Tyro*).—1, *Centaurea Scabiosa*; 2, *Potentilla formosa*; 3, *Aconitum versicolor*; 4, *Bad* specimen; 5, *Epilobium angustifolium*; 6, *Polystichum Lonchitis*.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

HARVESTING OF WHEAT.

It is a matter of great consequence to commence the cutting of wheat at the right time, so as to insure the greatest value of both grain and straw, the latter being now much more valuable than at any former period, and is in fact sometimes of as much value per acre as the grain in those seasons when the yield is deficient. It must, however, be borne in mind that, generally speaking, the best time of cutting to secure grain of first-rate quality is also the most likely to save the straw of the most value. The period of growth or ripeness for cutting wheat is usually indicated by the colour of the straw; but the surest way is to examine the corn, and if upon pressure there is no milk-like moisture in it, then the grain will be fit for cutting, and the longer it is delayed when once ripe the more injury it receives. Although the sun has great power for good in the ripening of the grain, yet it has also power for evil by damaging the sample and gradually changing the colour, thickening the bran and reducing the weight and quality of the flour. Besides this, when wheat is cut early and set up into shocks it is safer from damage by rain than when standing, because when in sheaf a small portion only would sprout in a wet harvest, whereas if left standing the corn may sprout as it stands or be whipped out by the wind.

In cutting wheat the straw should always be dry, for if cut and tied when wet it will never properly become dry again without opening the sheaves, which is a matter attended with serious waste and loss. Nor should the corn ever be allowed to remain upon the land in grip and untied, as in case of rain both straw and grain will receive more or less injury. The method of cutting wheat upon the home farm must depend to a certain extent upon the size of the farm and whether machinery is available or not. If it is available there is no means of cutting and securing the grain with so little loss and delay as by the use of the reaping machine, the best being that made by McCormick & Co., whose agents are Waite, Burnell, & Co., 228, Upper Thames Street, London, E.C., with self-binder attached. The binding is done by wire, and has now been proved to be effective. There is, however, some objection to the use of wire; but some trials have taken place, using twine or other materials for binding the sheaves, which is not yet held to be done with advantage as compared with wire.

Now on many of the small farms the purchase of such expensive machinery cannot always be considered a prudent investment. In such cases we must fall back upon hand labour unless we have the opportunity of hiring the reaper and mower, in which case the hire will be money well spent, not only by reason of the best work being made, but also by the celerity with which the harvest operations can be carried out and fine weather being made the most of. We can recollect various seasons during the past fifty years when upon some farms nearly all the wheat was cut and stacked without rain, but upon adjoining farms we have noticed that no wheat had been secured, a succession of wet weather having caused serious loss, and showing the propriety

of cutting and carting the corn when it is ready without reference to other comparatively unimportant farm work. In cases where machinery is not available upon the home farm the manager must of necessity continue to conduct the harvest work by hand labour. It then becomes a question as to the best mode of cutting the wheat, whether by reaping, fagging, or mowing. The cost of reaping is more than by the other methods, and it is only to be recommended where there is clover or abundance of grass and weeds amongst the corn. In this case it is desirable to cut the straw high enough to leave the weeds behind and the clover untouched, so that it may be cut for green fodder further on in the autumn. Fagging when well done by men who are accustomed to the work is a cleaner and better way of cutting than mowing, because it can be done where the corn is laid or lodged, whereas the scythe can only be used with effect where the wheat stands upright. There is not much difference between the sheaves when fagged or mowed. In both methods the sheaves are hollow and loose, so that in case they take rain it soon dries out again; but when wheat is reaped and the sheaves are tied tight, especially when the sheaves are large, if they once get wet inside it is difficult to get them dry without untying, and this applies to both hand labour and machine-tied corn. Sheaves ought, therefore, never to be more than 12 or 14 inches through at the bond. After the corn is cut and tied the sheaves should be set up in shocks, about ten sheaves in each; and when they are set out at bottom and settled into each other at top the rain is excluded nicely, and the shocks are not likely to be thrown down by wind. It is, however, a good plan in exposed situations to make the shocks round, with about the same number of sheaves in each. When the corn is much laid it cannot be cut with the scythe without loss, and fagging will then be found the only way to cut the corn most advantageously.

Carting the corn to stack so as to prevent heating is one of the most important operations during the harvest, for the grain of wheat heated is useless and unsaleable for general purposes. Nothing but experience will teach the farmer the right time to take the corn to stack, for in case weeds are found amongst the corn to any great extent it will require probably a week or ten days in the field; but when the wheat is fully ripe and without weeds, if the weather is dry and hot and the sheaves have not taken rain, they may be carted to rick about three or four days after cutting. And often when dead ripe the corn may be carted to stack as fast as it is cut and tied; for it must be remembered that the best samples of grain are those which are obtained from the earliest cut and earliest secured, when once it is ready and not likely to heat in the rick or mow. No farm should be without the elevator and horse gear for rick-making.

In stacking wheat it is of consequence as to the size and shape of the ricks. It may also be stacked in a difficult time much sooner than it can be mowed in a barn, particularly if the ricks are not made too large. We like them best to consist of from twenty to twenty-five waggonloads of sheaves. It is a common method in some districts to make the ricks oblong, but we like the round stacks best, as there is not so much outside, and the thatch is not disturbed so much by the wind. It is the most convenient plan to put two ricks near enough together for the thrashing machine to dispose of both without moving the machine. The straw, too, may then be made up into a single rick and thatched for sale or preserved for use. Moderate-sized ricks are not so likely to heat, and are more easily thrashed of a short day in the winter or when the weather turns out adversely. Ricks, however, intended to be held over until the following summer should not be made upon the ground, but are best placed upon a stand in order to preserve the grain from the depredations of rats and mice, iron stands being the best.

WORK ON THE HOME FARM.

Horse Labour now consists of working the fallows, some of which will be in preparation for wheat or winter oats. As soon as the peas or winter beans are harvested the land may be rafter-ploughed—that is, half ploughed—and then scarified crossways twice. It may then be harrowed, rolled, &c., and by this means

the grass and weeds will be kept on the surface instead of being buried under the soil by whole ploughing. This plan will enable the land to be worked with the chain harrow, and the best implement we have seen for this and all other purposes where the chain harrow is required is the latest invention of Howard's flexible chain harrow. This implement we greatly approve for general purposes; by its use the grass and weeds are drawn together, and may then with the least amount of hand or horse labour be carted away to heap or otherwise disposed of. Horse-hoeing will still be required for the latest Swedes and turnips, and we have often found it a good plan to entirely cut up the weeds between the rows of turnips. Instead of going once with the horse hoe between the lines we do the work at twice, holding hard up to the line on one side, and so continue throughout the field. After two or three days we go over the field again and hold the hoe hard up on the other side, and should any of the plants be partially buried with the loose earth they will have had time to release themselves and become erect between the first and second operation. By hoeing hard up to the lines in each hoeing the weeds will have been more completely rooted up than they would by the horse hoe only passing once between the lines. The horses will also be employed in reaping such corn as may be ripe, either rye, winter oats, white Canadian oats, &c., the latter being a very early sort. We saw a sample of this variety sold in a southern county corn market on 19th of July last, the grain weighing 46 lbs. per bushel. In this case the land being cleared of the crop so early there is a capital opportunity to obtain a good crop of stubble turnips, perhaps even better than if sown after an expensive fallow preparation. The odd horse will be engaged in collecting hedge trimmings for burning, also carting clover for horses, cattle, and pigs. It is important that the succession of green food should be insured as much as possible by looking forward and taking care that if possible a third cutting of clover may be obtained; or green fodder may be available where vetches and oats have been sown in admixture. We have seen lately some very promising crops of this kind sown after trifolium cut up for cattle, and in other cases after vetches and oats cut up. The advantage of this late cropping for green fodder is great. If this has not been provided it may be well to reserve a piece of second-cut meadow grass, and we have some now which bids fair to be capital food for horses, &c., as late as the months of September and October. We have often grown capital crops of clover when seeded in the wheat, and the corn cut high enough to reserve the clover untouched; it will then on the average of seasons produce a valuable crop of green fodder until the early frosts of November begin. In this plan of feeding the horses do much better than by feeding on hay, and the longer the hay feeding for horses can be deferred the better. It has sometimes been imagined that cutting the young clover in the autumn would injure the produce in the following summer, but we have never found it so; in fact it is much better than close feeding by sheep, which is a common practice. As soon as the second cutting of clover is carted, the land being intended for wheat, the sooner the yard dung is carted out and spread thereon the better. The ploughing and pressing should follow immediately, as early ploughed lea ground is sure to give the best preparation for wheat, more especially upon the loamy and mixed soils.

Hand Labour.—The men not engaged in harvest work will be now employed in hand-hoeing the turnips, and care should be taken not only to leave them singly, but leave the strongest plants, for these will always bring the best bulbs. When down ewes are kept for producing early lambs this is the time to turn out the rams. The best kind of down ewes for this purpose is not the Hampshire downs but the Dorsetshire downs, as they will generally offer to the ram earlier than the Hampshire downs. As many of the Dorset flocks are descended by crossing from the horned sheep they will in consequence breed sooner in the year, and bring a greater number of lambs; the shepherds will therefore be now required to give the ewes a constant change of fresh grass, saintfoin, vetches, &c.

THE TRIAL OF INCUBATORS.

THE forthcoming trial of incubators at Hemel Hempstead cannot fail to be of the highest interest to all who keep poultry whether for pleasure or profit. English springs do not improve, and year by year we hear increasing complaints among amateurs of exhibition poultry that they cannot procure sitting hens in the early months, and that consequently their chances of success at the chicken shows are much lessened. On the other hand, those who regard poultry from a commercial point of view would find their profits immensely increased if any reliable incubator were introduced, which would not only obviate the trouble of a multitude of sitting hens and coops, but would also insure the hatching of abundance of chickens at the time desired. As far as we know this will be the first occasion on which any competition of the kind will have ever taken place on satisfactory and equitable conditions. A prize was last year offered for the best incubator at the Agricultural Hall Show, but the award was, we believe, made solely with reference to the apparent ingenuity of the instrument and the consequent probability of its success. It need hardly be

pointed out that this is a most unsatisfactory and delusive test. Nothing would be easier than to put in eggs incubated in the natural manner about to hatch at the time of trial; the apparent success would be sure to influence most judges, however anxious to make fair awards. Could a certain amount of mechanical ingenuity insure success in artificial hatching assuredly it would be commoner than it is.

Interesting to us as the subject is, we are almost tired of the various descriptions of incubators, each with some carefully elaborated method for the imitation of Nature, especially as to the moisture to which eggs are nearly always subjected. Unfortunately in practice many of these instruments are not found to correspond to the anticipations of them formed in theory. We do not for a moment wish to depreciate the scientific care with which such inventions have been worked out, but it does seem a little provoking that the accumulated knowledge of this nineteenth century of grace cannot accomplish what was performed thousands of years ago by those whom we are wont to consider mere empirics. Some weeks ago we sketched the earlier history of artificial incubation, and were on the point of proceeding to discuss incubators of the present day, hoping from statistics sent us to compare the various instruments now in use. Many fanciers kindly sent us their experience, but the results were so extraordinarily different that we could really base little upon them, and every month seemed to bring to our notice some fresh invention or adaptation of one; so we decided to postpone the subject for a time, believing it fairer to wait till we could draw conclusions from wider experiments, or till we could ourselves watch and, if possible, compare some of the most famous instruments. This preliminary work will to a considerable extent be done for us at Hemel Hempstead next September. The scheme is certainly a most praiseworthy and spirited one, and the promoters of it deserve our hearty thanks. The contest begins at 6 A.M. on September 5th and ends at noon on September 26th, at which time the prize of £25 (a most liberal one) will be awarded to the incubator which has produced the largest per-centage of living chickens from fertile eggs.

All the conditions of the contest are worth studying. The incubators are to be delivered on August 31st, and will be worked by and solely under the charge of a special committee, one of whom is, we believe, an engineer, throughout the trial. We fear the four intervening days will be found hardly time enough to unpack the incubators, get them into working order, and master the principles of duly regulating each one, at least if those entered require anything like the preliminary care which some that have been under our own inspection do. This strikes us as the weak point of the regulations. Should, however, any difficulty arise on this score it might, perhaps, be obviated by postponing the contest a day or two. We heartily approve of the determination to test the machines independently of their inventors from written directions alone. If only time and care are taken to get over the preliminary difficulties of regulating the heat of each one severally, this method is obviously the fairest. It is a great point of merit in an incubator to be easily worked by a purchaser from printed directions. We were last winter staying with a friend who was trying one of a make of which we heard much boasting a year or two ago. The manufacturer asserted that under his care the identical instrument had worked capitally, yet in the hands of a most intelligent person with full written directions nothing like the desired temperature could be kept up. If incubators are to be of real use they must be suitable for general introduction, and they can only so be if their management is simple and comprehensible to ordinary unscientific mortals.

Lastly, "a report of the working and results of each incubator will be published after the competitions." We look forward to this as likely to be of great value, for we may thereby learn at what point some particular machine fails which may have been working well up to that point, and so it may turn out that one which is not absolutely successful in this contest may be capable of being advanced towards perfection. On the whole we hail the contest with much pleasure. We hear that it has been criticised in some quarters, but for our own part we never fail to rejoice at such schemes set on foot by those who can derive no profit from them, but, on the contrary, give much valuable time and attention for the good of their neighbours and fellow fanciers.—C.

OPEN TIME FOR BRITISH BIRDS.

AUGUST 1st being the end of the close time for British birds practical bird-catchers and the "bird frighteners," as non-professionals are called, will begin their operations. Soft-meat and seed-eating birds will be taken by the "pull net." A pull net varies from 6 to 14 yards in length, and covers from 12 to 20 feet in width; the bird-catcher works it with a string, standing about 20 yards away. The best time for seeing these nets in full operation is at daybreak on commons, waste lands, or seed-growers' grounds. After ten o'clock in the morning the catching ceases to a great extent, for the birds having fed "lay up." Towards the evening the birds again work the feeding places, but the bird-catchers generally have then left the ground. During ordinary

weather the birds are lured by decoy birds. Decoy birds used are of the same species as the birds sought to be caught. The furthest decoy bird will be placed in his cage 20 or 30 yards away from the net. The wild birds are attracted by the song of the decoy to within sight of the net; the wild bird is brought still nearer by other decoys until within sight of the "brace bird," which has been trained to his business. A piece of bobbin or other soft material is made into a figure of 8, and the bird is placed into it in such a manner that he is not hurt, but so that he has free use of his wings and legs. A swivel is attached to the underneath part of the brace, and a length of 4 or 5 inches then attaches the bird on to the "furr stick." The "furr stick" by an ingenious but simple contrivance, is made to rise and fall by the means of a string at the will of the catcher. When the wild birds are approaching the string is pulled, and the "brace bird" is raised up sitting on the top of the stick. Upon the lowering of the stick the brace bird "shows wing"—that is, he begins to flutter, as if settling on the ground. The wild birds imagine that the brace bird has found out a feeding ground, and they come to share in the spoil. The instant the birds have settled on the ground the bird-catcher pulls the pull-line sharply, and the nets are over in a moment. Even when the birds cannot make up their minds, and will not come within reach of the ground, the experienced catcher will strike them into the net when hovering within 3 feet of the ground. The takes vary from one bird to five or six dozen at one pull. The birds are carefully taken out of the net and immediately placed in cages, called "store cages." The doors of these cages are at the top, and made with the leg of a stocking fastened on; a usual wooden door would not answer, as the birds might slip out when fresh additions were made. All kinds of British birds, from a Wren up to a Rook, can be taken in the pull net. During ordinary weather the nets are worked by decoy and "furr birds" on the open lands; during the hot weather, such as at present prevails, the nets are worked on the margins of brooks, lakes, or ponds. Birds will go for miles to a clear running gravelly-bottomed stream. An experienced catcher on passing a suitable place can tell it immediately. The signs are that the shallow water at the edges of the pool is muddy, and the tracks of the birds visible in the mud. Birds frequent the water for drinking, washing, and moulting purposes about mid-day during the hot weather. By this mode of netting, which is called "the water trap," many rare British birds, which will take no notice of call birds, are captured. Amongst these rare and shy specimens are taken—viz., the Black and White Flycatcher, Woodpecker, Jays and Magpies, Doves, Wood Pigeons, Blackcaps, Butcher-bird, Lesser and Larger Pettichaps, Thrushes, Blackbirds, and all the Titmouse tribe.

There is another mode of catching birds—namely, by birdlime. The best lime is made from hollyback; there is also another good lime made of boiled linseed oil. Birdlime is mostly made by the catchers themselves; it requires considerable art to make it well. Good lime would hold a Duck or Parrot.

The birds principally caught by birdlime are Goldfinches, Bullfinches, Woodlarks, and Chaffinches. The best time for catching Bullfinches is in the blackberry time—viz., September and October. Birdliming is a more sporting mode of catching birds than netting. The Bullfinch-catcher finds his game principally by his own call. He walks along suitable lanes and margins of woods continually calling with his mouth; this is called "whooping;" it is the challenge or call note of the Bullfinch, and sounds much like "whoop," "whoop," "whoop." In some parts of the country Bullfinches are called "whoops." After a time the man finds his game by a bird answering his call. He immediately puts down a call Bullfinch in a cage, and a twig already limed near the cage. After a time the decoy "gets hold" of the wild bird by his call; the man then ceases, leaving the bird to finish the work.

The wild bird being of a pugnacious disposition he challenges the caged bird, and alighting on the stick he is done for immediately, being held fast by the lime. It is not an uncommon thing for a single-handed man to take two dozen Bullfinches in a day; fresh caught "Bulleys" realise to the catcher 12s. a dozen for cocks and 3s. a dozen for hens. Cock Bullfinches are in some parts of the country called "soldiers," on account of their crimson breasts. "Bulleys" are taught to pipe by being taken very young from the nest and one tune constantly hammered into their heads either by a bird-organ or by whistling. Numbers of birds, however, will not take to the song, in spite of great attention being paid to their education. The Germans are very clever in teaching Bullfinches to pipe. A trainer would think himself fortunate if four out of twelve "Bulleys" become pipers; the remaining eight will take a bit of the tune and not go on with it. These are sold as "broken pipers;" they are worth 3s. 6d. each. A perfect piper is worth from £3 to £4.

The Shrike Butcher-birds, or the small birds' enemy, are not plentiful this year; last year there were many. It is supposed that the fight this year did not hit this country, probably on account of the long, wet, cold spring. The food of the Shrike is grasshoppers, beetles, and small birds. In the autumn of the year they prey on the small insectivorous birds, such as the Chiffchaff, Willow Wren, and all kinds of small birds. It is not

an uncommon thing for the Butcher-bird to attack and instantly kill the bird-catcher's "brace-bird."

From the end of July to the end of August will be the most silent time of the year for birds. Birds are then all laying up for moulting for their new winter suits and for their autumnal flight. The first to go is the Nightingale. She chooses the first week in August to be off. The end of August entirely sends away the late Nightingales, to return again next April. The genial weather we have had lately suits this year's hatch of young birds. They have thriven well, and are very plentiful. The birdcatchers are preparing to reap their harvest previous to the autumnal flight. The summer birds will not all be cleared away from this country till the end of October.—(*Daily News*.)

VARIETIES.

WE remind our readers that the fourth metropolitan exhibition of the British Bee-keepers' Association will be held in the Royal Horticultural Society's Gardens, South Kensington, on August 6th, 7th, and 8th, when prizes of money and medals will be awarded for hives, produce, &c. Various manipulations by accomplished bee-masters will be made with live bees, which cannot fail being not only highly interesting but also instructive. The efforts of the Association to popularise apiculture in Great Britain merit much success, and the exhibitions are worthy of extensive patronage.

—AN American poultry-keeper has written that every chicken which had the gapes has been entirely cured by being made to inhale tobacco smoke. The treatment has done them no harm, and the trouble of smoking is but little if it is done when the chicks are in the coop. It takes but a moment to put them into a basket, and five minutes is as long as they should be subjected to the inhalation of the smoke, and not so long if it is strong enough to produce stupor. As soon as a chick is stupefied it should be taken from the basket and laid on the ground, when it will soon revive. Chickens that were nearly dead with the gapes when first treated got better with each treatment, and were cured after the seventh smoking.

—TURNIP FLY.—We are glad to know that this pest has not troubled the turnip crop this season so much as it has done of late. Mr J. Howden, Selkirk, writes a note introducing a method of preventing its ravages:—Take a quantity of sawdust well dried, say a bag, pour into it one gallon of paraffin oil and mix well; sow this upon the drills, either on the top or broadcast as may suit best. The sawdust, having absorbed the liquid, gives off the effluvia, gradually killing the insect without injury to the plant, two bags being sufficient for an acre. This can be easily tested in spots, and the expense is light.

—CHICAGO is able with improved machinery that has been tested within the last few weeks to desiccate from five to twenty thousand dozen eggs per day in such a manner as to keep them for any number of years in any climate. The amount desiccated could be doubled with little expense, and in this manner immense quantities will be canned when the market is low. The eggs are preserved simply by evaporating that portion which causes decomposition and decay, leaving the yolk and albumen, or the egg itself, in a rich golden-coloured granulation, which can be used in cooking at any time by adding water or milk according to directions to the desiccated egg, in which it readily dissolves in from three to five minutes. The difference between this and a fresh egg cannot be detected, as it is nothing else than fresh egg. By this method it is impossible to preserve limed eggs or eggs that are even slightly stale.

—A PARLIAMENTARY paper has been issued giving the importation of dead meat into the United Kingdom in the years 1876 and 1877. The following summary gives the quantity and value of the import for each month in the two years:—

	1876.		1877.	
	Quantity.	Value.	Quantity.	Value.
	Cwts.	£	Cwts.	£
January	81,992	216,626	136,396	373,344
February	114,920	283,639	154,969	405,518
March	110,928	278,890	188,213	492,369
April	95,708	231,682	140,409	362,716
May	69,656	172,543	190,350	459,926
June	76,037	182,929	125,655	308,851
July	56,919	130,362	95,624	246,189
August	73,263	186,901	67,802	180,366
September	81,883	202,240	81,797	224,311
October	94,893	244,397	134,830	366,971
November	144,014	378,973	127,733	310,326
December	167,167	404,102	139,622	357,101
T total	1,167,880	2,923,184	1,581,420	4,117,808

—PROFESSOR E. W. STEWART writing on feeding animals states that the best feeders are fast changing their ideas of the proper management of young animals. It is not long since pig-feeders thought a slow early growth the best for the constitution,

and even the profit of the feeder. Pigs were kept over winter with little if any increase in weight. The feeders did not seem to discover that this food given to store animals was even worse than lost, for the animals took on an unthrifty habit, contracted their powers of digestion, and required in spring nearly a month of good feeding to recover from this penurious winter feeding. A thrifty animal with good management progresses without check from its first to its last day. When a little attention was given to the matter it became evident that the profit of growing meat was to be found in pushing the young animal as rapidly as possible, that it cost the least to produce a pound growth in the earliest period of life, and this cost in food grew proportionately greater as the animal increased in age and size. This, then, is the great fact underlying all successful feeding of young animals.

"MY BEES."

To and from Manchester cheap trips during Whit week are the order of the day. Many of the bee-loving community visit Manchester at that time, and some of them run out to Sale to see the old bee-keeper there. Some two years ago an old man from Nottingham came, who was then told that we considered him too old ever to become an active bee-keeper. Some time ago a letter came from this old gentleman, wherein he assured me that his bees had made life a new thing to him, and the world more interesting by half. We have had visits from many bee-men of Nottinghamshire, all much interested in the pursuit of apiculture. How beautifully strangers converse about their bees! To thousands of aparians the two simple words, "my bees" mean a great deal. What a perennial source of enjoyment "my bees" are! What hours of unmixed pleasure have I spent amongst them! What hours of real rest and recreation they have given to me, and hours, too, of uplifting reflection and admiration! There is an indescribable charm to thousands in the songs of the lark and the linnet; and in the floral world what chaste enjoyment is felt in the presence of the sweet, sweet rose and white lily! But pray who can tell the story of the pleasure derived from my humming and wonderful bees? There they are in my garden always humming by day and night. Where else shall we find a community equal to that of a bee hive, which presents so manifold and various features of interest? The community is a grand republic with a monarchical frontispiece. Its government is perfect, its laws never need amendment or alteration. Not a sound of discontent or murmur of disagreement is heard in that community. There is no fault-finding amongst "my bees," for there is nothing to find fault with. There is not one lazy or unskilled worker in the hive, no scamped-up work. Hours of labour are not counted, and rewards for labour are not needed. "My bees" come into the world qualified mechanics and architects with instincts for labour. Labour is their delight, and the hotter the weather the faster they fly and work! With what assiduity do they toil from morn till night, and from sunset till sunrise! What an amount of work is done by bees during the "night shifts" of summer! While other creatures are sleeping my bees are working in building combs, feeding their brood, and overhauling the honey which they gathered during the day.

I rise early to go into my garden to find that my bees are first on the move. They have been out early to get water for household purposes, and returning to the hives with a whizzing sound. They need a great deal of water, which is often gathered before the dew evaporates. And as soon as honey is in the flowers "my bees" will have it. Off they go with a cheerful hum to collect the sweets of the fields and forests which lie around them. They soon return with their honey bladders well filled and their pollen baskets heaped up. They come back laden like donkeys with panniers. Wonderful creatures! they are at their work all day long. After a chat and a cup of tea with my queen bee I visit my bees again in the garden. What a roar of prosperity and gladness do I hear around me! What numbers of bees do I see and hear at the doors of their homes, fanning and ventilating with all their might and main to make life and work possible and tolerable inside! What evidence is thus given of a community of interest! I weigh three hives, one has gained 5 lbs. during the day, another has gained 3 lbs., and the small hive has gained 1 lb. only. The differences of results are owing to the capacities and effective forces of the hives. All have done well, and I am satisfied with "my bees."

I look into my swarm hives and guess from the space filled that not less than 1200 cells have been built and completed in each of my strong swarms during twenty-four hours. Several of my stock hives have young queens just arrived at perfection, and are "piping" in downright earnest. Second swarms will come tomorrow or the day after if I do not cut out the royal cells with their royal inmates. I will let them swarm this year, as I intend to multiply my stocks. It is no small pleasure to a lover of Nature to see swarms gushing from their hives, taking wing joyous and jubilant, and making the air ring again with their cheers. In swarming they obey an instinct and impulse of their nature, and leave the comforts of home and the place of their birth never to return. They are somewhat like "Abraham, when

he was called to go out into a place which he should afterwards receive for an inheritance, obeyed; and he went out not knowing whither he went." How many interesting features are presented to the eye of thought by a swarm of bees!

In studying the history of bees it is impossible to individualise or to notice one bee as separate from the rest. The community must be studied as a whole. The queen bee is the only one that can be noticed separately, and she is a most interesting creature. She is reared in a royal cell and receives queen-like attentions before birth and afterwards. She with trumpet tongue proclaims from her cradle cell her right to the throne and her intention to occupy it at once. She thus heralds her birth and reign. She now comes forth a beautiful, stately, and queenly bee—queenly in her appearance and behaviour. The special attention she received in her cell-cradle made her what she is—very different in form of body from the working community, and perfect in her reproductive organs. She is queen of the hive and will become the mother of many succeeding generations. She is born amongst her own sisters and brothers, but soon these will all die and her own progeny will take their places and be her subjects and attendants. She will live four years, and her progeny will live but nine months at most. She will, therefore, outlive many generations of her own offspring. A fertilised queen lays about two thousand eggs per day in the height of the season, but often there is not room enough in the hive for all the eggs she produces. If we estimate a hive of bees at forty thousand in number, and calculate that three generations of these appear and pass away every year, we shall be able to make an approximate guess as to the fertility of a queen bee.

A queen bee is motherly and dutiful. What a life of toil and travail a queen bee leads, of constant journeying up and down the hive depositing eggs in empty cells. While queen of the hive she is servant of all, doing the hardest and most important work. In the production and deposition of eighty eggs per hour—two thousand per day—there is involved a great amount of toil, of wear and tear by night and by day. No truant hours are ever sought by a queen bee in the height of the season; no excursions for pleasure are ever allowed her, and no holidays for rest and recreation fall to her lot. No thoughtful man can follow the fortunes and career of a queen bee without interest, or fail to admire her conduct and character. She seeks no honour, but obtains it everywhere; she lives and labours among subjects that adore her. If some accident or the hand of death remove her from them at a time when no successor can be reared their habitation becomes one of mourning, and loud is their cry of lamentation. But in the absence of accidents and disasters queens die, and the approach of the times of their dotage and deaths may be at hand. The bees know this and wisely prepare for what is evident and inevitable. Royal cells are built and prepared, and young queens are reared in them to take the places of the old ones.

There is but little space left for remarks on the profits of bee-keeping, which heighten its pleasures. We all know that apiculturists have seasons of reaping and harvests of honey, when their good wives are pleased to see the shelves of their pantries and larders well loaded with supers and dishes of pure honeycomb. And we all know, too, that it is a pleasure to see heaps of honeycomb which has been gathered by our own bees, and it is a pleasure to eat them, or sell them, or give them away to friends and neighbours. Bee-keeping, then, is an enjoyable self-rewarding recreation. The remark of the old gentleman at Nottingham about his bees making life new and more interesting to him is not to be questioned.—A. PETTIGREW.

BAR-AND-FRAME HIVES.

I HAVE had during a visit to Dunoon the opportunity of seeing the bar-and-frame hives in use, Ligurian and hybrid bees working, and the slinger in full operation. The slinger is a valuable invention, and I saw it extract flower honey quickly and thoroughly.

Bar-and-frame hives are very interesting and instructive, but require a great amount of attention, and I feel sure that the large straw hives are more suitable, and far more profitable, for the working man. After a day of hard work the peasant does not care to be examining his frames of honey and brood and the many other little jobs necessary where frame hives are in use, and I think many will agree with me that frequently smoking his bees to see that combs are all straight and not fixed-in with propolis, extricating the honey from two or three frames, replacing them, putting in queen cells or ripe queens or fertile ones, Ligurian or black-ligurianising and such like, is only work for an enthusiast who has nothing else to do.

As to the Ligurian bees they are certainly brighter-looking insects, but from what I have seen I would not have them. The little wretches were so savage that I hardly dare approach them, one hive in particular; and whether hybrids or pure they were certainly not fit to be near where children are.

My friend informed me that his Italians went out in weather when the blacks dare not look outside. That may be so, but can

bees get anything in such weather, and are they not exposing themselves unnecessarily? This I do know, that my bees in 18-inch hives have done infinitely better than the Ligurians of my friend, and his locality is as good or better than mine.

At the end of the season I will send you an account of the weights of my hives, and if you think it worth while you may publish it for the benefit of the labouring classes and others who will be at a little trouble and less outlay to make a substantial addition to the yearly income.

The slinger I saw was Steele's of Dundee, and cost 29s. It would be useful in large apiaries to extract honey from black combs, but for my part I would give that to other bees to fill supers with pure honeycomb, the only form in which honey should be put on the table.—HARDY OF THE HILLS, *Northumberland*.

CONDEMNED BEES.

MR. J. GUEST, who is offered some bees by his neighbours, who always destroy them to get their honey, asks "if they are worth having, when they should be taken, and the best way of feeding them."

I wish this correspondent, and all the apian readers of this Journal, to know that I value bees in autumn so highly that two years ago I bought twenty swarms in September (5 lbs. each), at 1s. 6d. per pound—that is, 7s. 6d. per swarm, and the expense of carriage besides. If the calculation is correct that 1 lb. of bees contain five thousand in number, we see that the person who sent them saved five hundred thousand creatures from the brimstone pit, and got £7 10s. for his trouble. I am willing to buy twenty swarms at the same price this year.

We advise our correspondent to accept the bees offered to him, to have them in 4 or 5 lb. swarms in 16-inch hives, and give each 5 lbs. of bees (each swarm of that weight) from 20 to 25 lbs. of sugar made into good syrup. If the swarms offered be small let two or three of them be united in one hive with four or five cross sticks in it.

The best way of feeding such swarms is by using a flower-pot saucer half full of chips of wood and placed on the centres of their floor boards. The saucers should be large enough to hold one and a half quart of syrup each, and be refilled every night at sunset by means of small tubes or pipes of iron, lead, or wood driven through the sides of the hives and resting in the saucers. In this way swarms can be fed without disturbing the bees or even touching the hives and covers. There is no other mode of feeding swarms equal to this for simplicity, ease, and safety. An old rusty dripping tin or other vessel may be used instead of flower-pot saucers. I say rusty with a view to prevent new tin vessels or smooth pie dishes being used. If bees cannot crawl up the sides of smooth vessels they fall back into the syrup. But even pie dishes and new dripping tins may be safely used if they are filled with chips of wood, or hay, or straw, and when the 20 or 25 lbs. of sugar have been given the vessels and the tubes should be removed and the small tube holes corked up. How easy thus to create stocks of bees of superior value, for there are no stocks of bees better than those fed with sugar.—A. PETTIGREW.

OUR LETTER BOX.

EGG WITHIN AN EGG (*H. M.*).—It is not an unusual occurrence.

HIVES LOSING WEIGHT (*Mrs. D.*).—Your bees have done well considering the weather we have had this year. Each of your hives has given two swarms, and two of the swarms have been put together in a Stewarton hive. You fancy that as your supers and ekes have not been entered, and some of your hives are losing weight in fine weather amid good pasture, something must be wrong. Rest assured that your bees are not lazy or voluntarily idle, and that when honey is in flowers they gather as much of it as they can; but they cannot gather it when it is not to be found, neither can they fill supers and ekes and yield swarms at the same time. The two swarms put into the Stewarton hive had nothing to do for a time but build combs and store honey. Your old hives were full of brood, which required almost all the strength of the bees left in them to hatch it. Both the bees and the brood required food, and part of this was taken from their combs, hence the hives became lighter. When wind is from either east or north very little honey is in flowers, even though the sun shines. You cannot help your bees at present to gather honey. Your aim should be to get your stocks well prepared for winter, and super them next year instead of taking swarms from them.

CUTTING A HIVE FROM EKE (*Comber*).—Your proposal to cut the wooden eke (10 inches deep and 8 inches wide), from the old hive, and then place the second swarm hive on the eke with a view to make a strong stock for another year, and also get a little honey for present use, does not meet with our approval. The eke is too narrow for a stock hive, and probably half of the combs in it are drone combs, as the eke was filled this spring. In detaching the combs from the top hive some of them may fall, and in uniting the two swarms as you propose one of them might be wholly slaughtered. But if all the proposed operations were to be successful the advantage gained would not be worth the trouble. Better drive all the bees into a decent hive and feed them into a stock, or unite them to the second swarm and make a strong one of it. Your aim should be to get rid of all narrow old hives, and have your bees in good roomy ones. If you cut the hive in two parts let the operation be done when the other bees are not flying about. Evening, too, is the best time for uniting swarms. Driving can be done at all hours of the day.

PRICE OF HONEY (*Ev.*).—In ordinary seasons the price of honeycomb is

1s. 6d. per lb. In seasons of scarcity it is readily sold at that price, but in times of abundance the price has to be lowered. Super honeycomb ranges in price between 1s. 3d. and 2s. per lb.

BEES LEAVING THEIR COMBS (*Charleville*).—In the absence of sight it is impossible to say why your bees left their combs and brood and clustered on the outside of their hive, and preferred to bear a drenching rain rather than go inside. They clustered outside before the hive had been swarmed artificially, and after the swarm was removed almost all the bees left in the stock hive preferred the outside. The smoke used in swarming was not the cause of this. We have never known bees act as yours have done in the absence of foul brood. This terrible disease often causes bees to cluster on the outside of their hives, both before and after swarming. Sometimes when the rays of the sun strike hives and raise the internal heat too high, even to the softening of the combs, bees seek air and protection outside.

RHUBARB WINE (*G. D.*).—We published a recipe in the *Journal of Horticulture* on August 2nd last year.

BLACK CURRANT WINE (*F. F.*).—Take dry and ripe black currants 70 lbs., loaf sugar 10 lbs., water sufficient to make fifteen gallons, brandy two bottles. Bruise the fruit in a tub, then add the water, allowing it to stand for twenty-four hours, stirring it occasionally; then draw off the liquor, pressing the fruit; boil the whole for a few minutes, skimming all the time, then add the sugar, and when the liquor has cooled to 75° put it into a cask with yeast and leave it to ferment. At the expiration of fourteen or twenty days the spirit is to be added and the wine bunged up and left for three months, when it may be bottled for use.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.						IN THE DAY.				
	Baromet- er at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Air. 1 foot.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.				Max.	Min.	In sun.	On grass	
1878.	Inches.	deg.	deg.	E.	deg.	deg.	deg.	deg.	deg.	deg.	In.
July.											
We. 24	29.736	65.8	63.4	E.	67.3	76.3	61.7	114.5	59.6	56.2	0.280
Th. 25	29.691	62.9	59.6	W.	68.4	70.7	58.3	115.0	59.3	56.3	0.133
Fr. 26	29.789	65.4	59.5	S.W.	64.3	73.7	54.2	129.0	52.1	—	—
Sat. 27	29.874	64.7	58.6	N.W.	64.7	74.6	57.4	121.3	54.6	—	—
Sun. 28	29.954	63.6	58.6	N.	65.0	71.5	55.2	104.6	53.3	—	—
Mo. 29	30.026	65.0	59.4	W.N.W.	64.0	73.3	50.3	126.9	49.2	0.068	—
Tu. 30	30.165	62.6	58.3	N.W.	63.2	72.7	48.7	125.1	46.4	0.015	—
Means	29.891	64.3	59.6		65.1	73.5	55.1	119.6	52.5	0.496	

REMARKS.

24th.—Fine clear morning at 5 A.M., dark and foggy at 8, cloud by 9; showery from 11.50 till 1 P.M.; sunny afternoon; thunder at 5.16, lightning and thunder at 5.50, heavy rain 5.46 to 5.52 = 0.11 inch; damp evening.
25th.—Showery morning; sunny and bright from 1 P.M., dark clouds at 4, shower at 4.30; fine evening.
26th.—Cool pleasant morning; cloudy afternoon; slight rain at 9 P.M.; lightning and thunder from 10 till 11 P.M.
27th.—Fine day, cloudy at intervals; very fine evening.
28th.—Dull morning, heavy clouds with every appearance of a storm, but none came here; fine sunny afternoon; beautiful evening.
29th.—Fair morning, cloudy and dull-looking after 11 A.M., heavy shower at 3.35 P.M.; fine evening.
30th.—Fine morning, sharp sudden shower at 0.10; fine rest of the day, but dull heavy-looking clouds.
Cooler and damper, with occasional thunderstorms, but none heavy here.—G. J. SYMONS.

COVENT GARDEN MARKET.—JULY 31.

THOUGH the London season is over there has been a brisk demand for hot-house fruit, and prices have been well maintained. Soft fruit are nearly finished, and large buyers are off the market, consequently business will be quiet for a short time till we get a better supply of Plums and Apples.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	3	10	2	0	Melons.....	each	4	0	10
Apricots.....	dozen	1	0	3	Nectarines.....	dozen	4	0	12
Cherries.....	1b	0	6	1	Oranges.....	100	8	0	16
Chestnuts.....	bushel	10	0	20	Peaches.....	dozen	2	0	12
Cucumbers.....	3	10	3	0	Pears, kitchen.....	dozen	0	0	0
Figs.....	dozen	6	0	6	Pears, dessert.....	dozen	0	0	0
Filberts.....	1b	0	0	0	Pine Apples.....	1b	3	0	6
Cobs.....	1b	0	0	0	Piums.....	3	10	6	5
Gooseberries.....	quart	0	6	9	Raspberries.....	1b	0	6	1
Grapes, hothouse.....	1b	1	0	0	Strawberries.....	1b	0	6	1
Lemons.....	100	6	0	10	Walnuts.....	bushel	5	0	8
						100	0	0	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	dozen	2	0	4	Mushrooms....	pottle	1	6	2
Asparagus.....	bundle	0	0	0	Mustard & Cress	punnet	0	2	0
Beans, Kidney forced.....	1b	0	3	0	Onions.....	bushel	2	6	0
Beet, Red.....	dozen	1	6	3	Pickling.....	quart	0	4	0
Broccoli.....	dozen	0	9	6	Parsley..... doz.	bunches	2	0	0
Brussels Sprouts.....	1 sieve	0	0	0	Parsnips.....	dozen	0	0	6
Cabbage.....	dozen	1	0	2	Peas.....	quart	0	9	1
Carrots.....	bunch	0	4	8	Potatoes.....	bushel	3	6	7
Capsicums.....	100	1	6	2	Kidney.....	bushel	5	0	7
Caulliflowers.....	dozen	3	0	6	Radishes..... doz.	bunches	1	0	1
Celery.....	bundle	1	6	2	Rhubarb.....	bundle	0	9	1
Coleworts..... doz.	bunches	2	0	4	Salsify.....	bundle	1	0	0
Cucumbers.....	each	0	4	1	Scorzonera.....	bundle	1	0	0
Endive.....	dozen	1	0	2	Seakale.....	basket	0	0	0
Fennel.....	bunch	0	3	0	Shallots.....	1b	0	3	0
Garlic.....	1b	0	6	0	Spinach.....	bushel	2	6	0
Herbs.....	bunch	0	2	0	Turnips.....	bunch	0	6	0
Leeks.....	bunch	0	2	0	Veg. Marrows..	each	0	2	0
Lettuce.....	dozen	1	0	2					

WEEKLY CALENDAR.

Day of Month	Day of Week	AUGUST 8—14, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.			
8	TH	Lythall Show.	74.5	49.7	62.1	4 36	7 35	5 18						10	5 26	220
9	F	Sir J. E. Smith born, 1759.	74.6	50.2	62.4	4 38	7 33	6 4	0 5					11	5 18	221
10	S		75.3	52.6	64.0	4 39	7 31	6 37	1 14	12	5 9			12	5 9	222
11	SUN	8 SUNDAY AFTER TRINITY.	75.8	51.3	63.6	4 41	7 29	7 0	2 30	13	5 0			13	5 0	223
12	M		75.2	50.8	63.0	4 42	7 27	7 18	3 46	14	4 50			14	4 50	224
13	TU	Clay Cross Show.	74.2	50.3	62.2	4 44	7 25	7 32	5 1	15	4 40			15	4 40	225
14	W	Jersey, Shrewsbury, and Ramsgate Shows.	72.5	50.8	61.6	4 45	7 23	7 43	6 13	16	4 29			16	4 29	226

From observations taken near London during forty-three years, the average day temperature of the week is 74.5°; and its night temperature 50.1°.

CULTURE OF CUCUMBERS IN WINTER.

TO have Cucumbers in the winter months the plants must be now strong; at any rate they must have been raised from seed sown not later than the middle of July. Assuming that the plants are now in small pots, let them be shifted into larger, and have all the light and air possible in fine weather; with a steady bottom heat and with proper care they will be ready for planting out by the middle of August. If the weather is fine much fire heat will not be necessary, but if wet unfavourable weather should prevail after the middle of September fire heat is then indispensable.

Cucumbers in winter are always best trained on trellises. I do not think it matters very much what kind of house is used for them, whether lean-to, half-span, or span-roofed, but it should be in a position to receive all the sunlight possible, and also be sheltered from the north and east winds. The glass should be kept washed clean to admit of a maximum of light during the dull days of the year. I have always found Cucumbers do well in a compost of light turfy loam with a little well-decomposed manure mixed with it. The soil should be used in a rough state—i.e., not sifted.

When planted out give air on fine days, in order to secure short yet vigorous growth. Attention should be paid to the training of the shoots to the wires, which should be a foot or 15 inches from the glass, and as soon as they reach part of the way up the points of the shoots should be nipped out, they will then soon produce laterals, and the fruit then will make its appearance; the laterals should be stopped at the joint beyond the fruit. If the plants grow very vigorously a thinning-out of the shoots will be necessary, for a few strong healthy shoots in winter are better than a large quantity of weak growths. It is best, too, if they should be very prolific in fruiting, to thin the fruit, for if allowed to bear too freely in the autumn months they will not be in such good condition for fruiting during the winter. Good waterings should be given as required, the water being of the same temperature as the house they are growing in. A steady regular bottom heat of 75° to 80° should be maintained. The top heat must be regulated according to the state of the weather. A temperature of from 65° to 70° by night and 70° to 75° by day, with an increase of a few degrees by sun heat, will be a safe one; and on all fine days a little air at top should be given, for if this point be neglected mildew will soon make its appearance, and if it does flowers of sulphur should be lightly dusted on the parts affected, and sulphur also should be rubbed on the pipes.

Evaporating troughs should be placed on the pipes to give off moisture, and weak liquid manure if put in them is very beneficial to the well-doing of the plants. Gently sprinkling the foliage with tepid water during the mornings of fine days helps to keep red spider down; the walls and floors should also have water sprinkled on them two or three times a day. Air should be given very

cautiously when cold winds prevail, but a little is necessary on most days if only for an hour to cause circulation and prevent stagnation of moisture. As the plants grow and roots increase layers of rough turf should be placed on them, and in the spring as the days lengthen weak liquid manure will prove beneficial.

If a stock of plants has not been raised from seed there is yet time to have plants for winter by layering some shoots; or a plan I have found equally good is to take some 60-pots, knock the bottoms out with a hammer, then place a young shoot through the pot and stand it level on the bed so as to be convenient for watering it, then fill up the bottomless pot with soil, leaving of course a few inches or a few joints of the extremity of the shoot above the soil. If all is well the shoot will be rooted in a fortnight, when it may be severed from the parent plant and kept shaded for a few days, when it may be potted-on into a larger pot, or if the place is ready for it plant it out.

As to sorts. The question is sometimes asked, Which is the best sort of Cucumber to grow? There is undoubtedly a large number of good varieties in commerce now, but most gardeners have not the convenience or even the desire for growing more than one or two, so long as they are productive and of good quality. Tender-and-True and Osmanton Manor have the reputation of being good varieties both for winter and summer use, but as I have never grown them I cannot speak of them. A few kinds I am well acquainted with I can speak of.

In January last a span-roofed house 30 feet in length by about 12 feet in breadth was planted with twenty-three plants, one plant of Dickson's Imperial Frame and eleven each of two other kinds—Cox's Volunteer and Rollisson's Telegraph. The latter two were both sown the same day, and had equal treatment. As to earliness, Cox's Volunteer proved the best, I having cut from it a fortnight earlier than from Telegraph; both proved very productive, but the latter produced the best fruit and continued bearing well the longest. In May another span-roofed house that had been used for bedding plants adjoining it, and of the same dimensions, was planted with four plants of Masters' Prolific, four of Cuthill's Black Spine, the rest all Telegraph—about twenty-four plants altogether. Very little fire heat was used for this house, and the plants have been in full bearing for a long time. Telegraph has been decidedly the best, having yielded at least 25 per cent. more fruit plant for plant than any of the other sorts, and judged from a commercial point of view it has been decidedly the best.

Those who have not a house for early Cucumbers in spring and have to resort to hotbed culture should try Streatham Hero. I have found it very early. This variety and Telegraph I have planted out the same day on the same hotbed, and the former has been cut from ten days sooner than the latter; but Telegraph had by far the best fruit and continued in bearing longer. If I were restricted to grow only one variety for spring, summer, autumn, and winter use I should grow Telegraph, for out of many hundred fruits I have cut this season it has been by far the best for productiveness and quality, and I can fully

endorse what has been written by many others, that this is a variety second to none.—A. HARDING.

HERBACEOUS CALCEOLARIAS.

FOR providing a display of these beautiful greenhouse flowers next May and June seed must be sown as soon as possible after the present time (August 1st). If sown much sooner the plants are apt to become too large before winter—that is, if they are shifted on regularly as the pots fill with roots, while if they are not duly potted the plants become stunted and fall a prey to insects. The stems also when the plants are kept in a root-bound state not unfrequently become hard and woody, and after the plants have been shifted in the spring they occasionally die outright. Some mysterious "disease" is then supposed to have overtaken the collection, but in three cases out of five the evils that occur are due to some error of treatment committed, it may be, some months before its effects are seen, or at any rate before they assume a serious phase.

Calceolarias, like Celery, love a cool moist atmosphere, and grow most rapidly during the autumn months. They should be kept steadily growing, also, through the winter, and in the spring when they are given their final shift they will again move with great vigour, and in due time will give a rich return for all the attention that has been bestowed upon them.

It is wonderful that a seed so small as that of the Calceolaria should germinate and develop in the short space of ten months into a plant so massive and gorgeous—a plant, for instance, a foot high having a dense head of flowers 2 feet across, a sturdy main stem as thick as a man's thumb, and an amplitude of luxuriant foliage obscuring half the pot. Hundreds of plants of that type are each year produced, but only by having received unremitting attention on the part of the cultivator. It is not any great amount of skill that is required to grow Calceolarias well, the secret of success is to be found in the paying of close attention to simple details of culture throughout the whole period of the plant's growth.

A few errors somewhat common in Calceolaria culture may, perhaps, be pointed out with profit to some who are essaying the culture of these handsome flowers. They are—1, Sowing the seed too soon and too thickly; 2, Deferring pricking-off and potting the plants unduly, and permitting them to be overcrowded; 3, Allowing insects to gain a footing on the foliage; and 4, Placing the plants in a structure where the atmosphere is too warm and dry, and where they too often suffer by not being watered sufficiently copiously, yet intelligently.

Having pointed out the danger, a safe course may now be sketched. It is as follows: Drain some pots or pans well, and protect the drainage with a layer of moss or clean fibre; fill them within half an inch of their rims with light, rich, sifted soil. If it is lumpy the young plants cannot be removed without having their roots broken. Half of the compost may consist of very old manure crumbling to decay, and the other half of loam with silver sand added according as the loam is light or heavy. If old decayed manure cannot be had, leaf soil will do for mixing with the loam; at any rate the compost must be light and tolerably dry when used. It must not be pressed into the pots very firmly or the tender radicles of the young plant will not penetrate it freely, which is a fertile cause of failure. Water the soil thoroughly, twice if required, an hour or two before the seed is sown. Sow very thinly and do not cover with soil, but keep the surface dark and moist, and every good seed will germinate. A proper place for the seed pans is the most cool and moist place that can be found in the open air, such as on the north side of a building, but not under trees. Place a square of glass across the pan, and over the glass a piece of slate, or the pan may be placed under a handlight or in a small frame to be kept well shaded for a week. The moment signs of germination are apparent light must be gradually admitted, and in a few days no shading whatever must be employed. The soil must be kept regularly moist yet must not be watered, a far preferable plan being to place the pots or pans in large saucers containing a few inches deep of water, and the proper moisture will be secured. In dark, close, moist frames even that precaution is not necessary, as evaporation being reduced to a minimum the soil will retain sufficient moisture for the germination of the seed. When the seedlings appear water must be given carefully yet sufficiently. It is best to pour it very gently round the sides of the pan and let it float over the surface of the soil in sufficient quantity to percolate the entire bulk. Frequent dews, that are so

commonly indulged in, keeping the surface moist while the soil below is dry, constitute a fertile source of the plants damping-off. Thin sowing has been advocated, and it is highly important. It means that a small packet of seed such as is ordinarily sold for 2s. 6d. must not be sown in a 5-inch pot, but in a pan at least a foot in diameter. The plants will then come up thinly and will assume a sturdy growth from the beginning, a character which with good culture they will retain throughout their career.

The after cultivation of the plants is easy. As soon as the seedlings can be handled transplant them an inch or two apart in boxes of light rich soil, place them in a frame, keep them moist, shade for a day or two until they emit fresh roots, and then allow them light and air freely. Just before the plants touch each other pot them, using now somewhat heavier and unsifted soil, potting rather firmly but not hard. Immediately the roots are seen to be fairly active, yet before they adhere to the sides of the pot, shift them into larger, the shift being just sufficient to enable the work being done comfortably. At each potting the soil may be somewhat heavier than before, and when placed in their blooming pots it may consist of two-thirds of rich and rather strong turfy loam and a third of very much decayed manure, mixing with each barrowful of the compost a 7-inch potful of bone dust, and similar quantities of soot and clean silver sand. At this potting the soil should be made decidedly firm. Firm potting promotes firm sturdy growth, light potting longer and more succulent growth. At all times the plants must be handled carefully, and not a leaf must be broken during the operation of potting, but a few of the lower leaves may be removed if it is thought necessary to better induce the emission of roots from the stem.

Watering must be carefully practised, especially after each potting and when the soil is rather heavy and firm. Before being potted the balls of the plants must be decidedly moist but not wet, and the soil must also be in the same wholesome state as to moisture. The pots must be well drained, and the drainage well protected from soil particles, or the crocks may almost as well be outside the pots as in.

Until October the plants may be grown in frames facing the north, the lights being removed during all fine nights, so that the plants receive the night dews, which they enjoy greatly. The pots should be placed on ashes, a sharp look-out being kept for slugs. Early in October the plants should be placed in frames having a southern aspect, and there they may remain until severe weather sets in, when they should be removed to light houses; or with care and due protection they may be wintered in frames if better conveniences are not afforded. In spring, as the days lengthen and heat increases, let them have light, air, and water in abundance; they will seldom require shading, and their shoots, not even the central shoots, will rarely or never require stopping, but the plants will branch naturally and form level heads of bloom. When the flower buds are fairly visible water the plants with weak clear soot water twice or thrice a week. The soil should never be so dry that it crumbles to the touch.

And now to one of the most important points of all. If success is to be achieved an insect must never be seen on the plants. If you can see one there will be twenty others that you cannot see, and if plants are once allowed to be infested they can never be cleared without sustaining injury. As soon as the plants are fairly established after each potting fumigate them lightly, and in the spring fumigate them once a fortnight. A very little tobacco or tobacco paper is requisite, as all that is wanted is to keep the odour of smoke about the plants, and insects will not then attack them. That is not only the most effectual, but is the most economical mode of fumigating.

It is by carrying out the above-described practice in all its details that has enabled plants being produced which have won much admiration, and which have secured honours at public exhibitions. All seedsmen of reputation take care to sell good Calceolaria seed; let it be purchased at once, and be sown promptly.—AN EXHIBITOR.

STRAWBERRIES.

FOR some years past I have been making experiments to ascertain which are the best and most productive Strawberries in my garden. I have tried nearly all the best sorts in cultivation and have given them a fair trial, not of one year only, but of three or four years, before I decided on their merits or demerits.

For the past three years there has been an abundant crop,

and the only enemy I fear now is drought early in the season, and then I water. I am generally able to place a dish of Strawberries on the table any day for a month or more, which is all that can be expected on light land. The soil is deep light loam rather poor than otherwise. The following I consider the best—First early, Roden's Early Prolific; second early, Keens' Seedling; main crop, Sir J. Paxton and President; late, Elton Pine. I also grow a few of Myatt's Prolific in a line as an edging, and cover them over with wire Pea guards to keep off the birds; the others I net. Early Prolific and Keens' Seedling I set out 2 feet apart in the rows and 1 foot 6 inches from each other, the rest 2 feet apart each way. If the ground is not rich I should put between the rows some well-decayed manure in November. As a general rule I do not dig between the plants, but keep down weeds with the hoe and hand-weeding.

If the Strawberries mentioned above do not succeed the following might be tried—First early, Black Prince; second early, Vicomtesse Héricar de Thury; main crop, Amateur and La Constante; late, Eleanor.

Whether La Grosse Sucrée is worth continuing I have not yet decided. It was pretty good this year, but last year was the reverse of sugary, and that I expect will be the complaint against it except in a warm climate like France. I have not tried Marguerite, but have heard it is too soft. British Queen and Filbert Pine are good Strawberries, but not suited for light land.

I do not care very much for Eleanor as a late Strawberry. I have grown it two or three seasons, and if it does not do better next year shall not retain it. It is very likely that it requires heavier land.—AMATEUR, Cirencester.

ROSE JUDGING AND ROSE SHOWING.

THE writer of your leading article on page 61 praises the London system of judging and its collateral arrangements. He next proceeds to cite Preston as an instance of the inextricable muddle into which the officials of provincial exhibitions get if they retain their own system, "one," to use the writer's own words, "which is dictated by local fancies, prejudices, or jealousies." Now, I venture to entertain the opinion that the question of success or failure does not so entirely depend upon the adoption of one of the two systems he mentions, open or blindfold judging—the terms themselves are misnomers after all—but whether the particular system as such is efficiently worked or not. The system in vogue at Preston, given at some length by your correspondent, hardly could have been, for one very similar has been followed at the West of England Rose Show, Hereford, for the last dozen years, where no less an authority than the Rev. J. B. M. Camm (I may add also Mr. Baker) pronounces the management throughout perfect.

I will just outline the leading features in our system. Each exhibitor has a through number representing his own identity, and separate numbers identifying each collection given him. These numbers have to be affixed in front of each box. A member of the sub-committee goes round with each set of judges (always three if possible) to explain and direct, together with another official who takes the judicial award to the secretary. This individual sits close at hand in the exhibition hall, whose easy duty it is to write on a card from his entrance book the name corresponding with the number handed in to him, which is immediately nailed on a lathe conspicuously and securely (a very important point) behind each exhibit to which it belongs. This process is quietly and effectually gone through in very little, if any, more time than it takes me to describe it, and from what I have seen and heard this year the Rose Show at Hereford was quite equal to any other, metropolitan or provincial, both as regards quantity and quality. I do not say but that the reverse-card system is the simplest and easiest worked; what I do say is, that when older existing systems work efficiently, let well alone. I am happy to be able to fully endorse your correspondent's remark that complaints are practically unheard of in connection with the awards of the London shows. I must here mention one signal exception (we will say to prove the rule), which took place last June at the London exhibition of the Royal Horticultural Society, and became the subject of very general comment at the time. I refer to an extraordinary case of Rose judging in placing Mr. Jowitt second in twenty-four single varieties to Mr. Hollingshead's first prize. The former gentleman certainly had one signally unfortunate bloom of *Mdlle. de St. Amand* in the middle of his stand, while the collection of the latter was

uniformly weather-stressed and singularly rough, not to say much smaller throughout. As I was looking at this class my old friend, the President of the National Rose Society, joined me and expressed himself amazed at the decision; indeed, so strongly did the Canon feel in the matter, that I know as a fact he conveyed his sympathy to Mr. Jowitt afterwards in a letter.

I cannot quite comprehend the purport of the article on Rose showing by a "LOVER OF ROSE SHOWS," although I thank him for giving me an opportunity of adding a few words on the recent contest for Messrs. Cranston's cup at Hereford between Messrs. Baker and Jowitt, as the writer seems to imply, from what he gathers from "WYLD SAVAGE'S" report, that the latter gentleman was also in this case, as well as in the one I have just mentioned, unfairly beaten, especially as something is added about the desirability of the judges' names being printed in the schedule. I repeat I am only too glad to make still further known the names of the judges over amateurs, for whose appointment I am solely responsible to the exhibitors and the public. I feel sure it is quite sufficient to mention the names, so well known to horticulturists, of the brothers Gater, the clever, experienced, and respected foremen of the Cheshunt and Slough nurseries, supplemented by the valuable aid of Mr. Curtis of Torquay (our veteran rosarian now John Keynes is gathered to his fathers), who has lately so often written in our Rose Journal for the benefit of its readers. All I can say on this point is that there are many with me who would pity the touching innocence of any exhibitor who dared to risk a duplicate Rose in their collection in the belief that these arcades ambo would fail to spot it. No, sir, not one member of the cognoscenti would dream of doubting either their capability or integrity. I say then fearlessly, as all Mr. Jowitt's friends would and did say, that never was there a more gallant struggle, never a more righteous judgment.

May I in conclusion try to throw some light on a "LOVER OF ROSE SHOWS" seeming bewilderment? I fancy he does not make sufficient allowance for the exuberant humanity with which all the friends of "WYLD SAVAGE" know that gentleman to be endowed. Who would not make allowance for one in your reporter's position criticising the merits of the exhibits of two personal friends? George Paul's quaint comparison from the poultry yard, apposite and amusing on some former occasion your writer refers to, was here utterly out of place, although my humble self, who crept *longo intervallo* into a third place, may indeed have been suggestive of the bantam in such big company. But who—certainly not "WYLD SAVAGE"—could find it in his heart merely to give the dry stereotyped names of the victor's collection with the usual off-imaginative variations, and not sympathetically describe (as he can describe) the congenial merits of the gallant loser, most of them being his own specialities, his shapely though smaller blooms, his lovely Teas, his admirable arrangement? Even if the contrast was just a trifle incongruously heightened at the expense of the victor, those faults began and ended, in my humble opinion, with a coarse and aged bloom of Mrs. C. Wood (how exquisitely Cranston shows this Rose!), but surely not such as to spoil his collection. *Victrix causa Deis placuit, sed victa Catoni*. No, "WYLD SAVAGE," you are no Cato, save in your strict impartiality, honoured here just for once in the breach. Rather in the scribbling of your genial pen (and long may Rose shows and our Rose Journal have the benefit of it) can I fancy I hear the distant echoes of those generous Harrow boys, shouting at the close of their recent hardly-won victory at Lord's, "Three cheers for Eton."—THE HEREFORDSHIRE INCUMBENT.

[This article has been unavoidably delayed a week.—EDS.]

STRAWBERRIES IN POTS.

COMPLETE the potting of the runners for forcing purposes as soon as possible, for if this be deferred much longer the plants have not time to make a good growth and form well-developed crowns, which are essential to a satisfactory result. Those potted some time ago should be examined two or three times a day, not necessarily to water them, but to see that none are drooping for want of that element. Give them a good watering overhead, if with a hose-pipe all the better, making sure that the plants have a thorough supply at the roots. A peck of soot to thirty gallons of water is a capital stimulant, and is not relished by worms or red spider. Too much vigour can hardly be given the plants during the next six weeks, but

avoid any stimulant that induces grossness, and in case of the plants making a sturdy growth avoid giving manure water of any kind. The surface of the pots may be stirred lightly with a pointed piece of wood—this is to cause the water to permeate the soil in the pots equally; for if they become dry the soil leaves the sides of the pots, and without a loose surface the water passes between the sides of the ball and pot without wetting the interior of the soil. Remove all runners as they appear; see that the roots do not escape from the pots, but keep them on a hard bottom in the full sun, yet in a position where they will be sheltered from strong winds, which seriously injure the leaves by their rubbing against the rim of the pots. Let every plant have room for its foliage; crowding the plants together affords nothing but bad growths, poor crowns, and disappointment.—PRACTICALIST.

PLANTS IN FLOWER AT BIRDHILL, CLONMEL.

I PAID a hurried visit on the 31st ult. to the gardens of the prince of Orchid growers in this locality, George Gough, Esq., at his picturesquely situated residence near this town. The situation for a garden, grounds, and surroundings might form the *beau idéal* for a landscape gardener; but to this I hope to return another time. At present the readers of the Journal may be interested in some notes I took of the Orchids at present in bloom, with a collateral reference to a few other plants. The latter were kindly pointed out by the proprietor, and I was shown over the grounds and houses by the head gardener, Mr. John Lonergan, a promising young man, who has a rare opportunity of becoming acquainted with all the novelties in the floral world with Mr. Gough, for no sooner are such announced than you generally find them at Birdhill.

The new Orchid house first deserves a passing notice. It has been erected under the immediate supervision of the owner by a local man of considerable taste and experience, and certainly has all the recommendations pointed out in the Journal by Mr. Luckhurst, page 62, "combining strength, lightness, and soundness with a good method of ventilation, staging, and heating, the materials and workmanship being honest, strong, and true." Here in a brief sentence are the most desirable points requisite in such structures. The house is, say, 50 feet long, span-roofed, and facing south-west. A peculiar feature is having the front sashes painted green. This, besides shading the plants, throws a soft mild light over the house. The plants that immediately on entrance catch the eye are a fine example of *Dendrobium Devonianum*. This was, I remember, in flower last May, and I now ascertain it has produced 220 splendid blooms. Just opening into bloom was a fine specimen of *Vanda tricolor*, a native of Java, and very promising. Another well-developed plant is *Disa grandiflora*, very healthy, but somewhat smaller than the one shown by Mr. Speed from Chatsworth (*vide* Journal of the 25th). An Orchid of considerable merit now flowering profusely is *Lycaste cruenta*, a native of Guatemala. No section is so largely represented here as the *Odontoglossum*. Those now flowering are *O. crispum*, a profuse bloomer, but liable to sport its colour; *O. Roezlii* and its charming variety *alba*; *O. triumphans*, *O. Uro-Skineri*, and best of all *O. vexillarium*. This is a young plant procured last September from Chelsea, the flowers of which are coming out large and splendid. It is evidently one of the best varieties of the species; and this, too, is the opinion of Mr. Gough, who is in this respect a connoisseur of superior judgment. The flowers are generally rose-coloured; this one has a yellow centre softly shaded to rose towards the margin, and is flowering finely in a cool partially shaded conservatory.

The Begonias at Birdhill are in the greatest variety; you find them in every house and of many hues, and even bedded out. I now specially refer to the tuberous kinds. The number and varieties are owing to the successful hybridisation carried out by Mr. Lonergan under the direction of Mr. Gough. One variety was particularly striking, the result of a cross between *Valourous* and *Camoens*, and to which has been given the appropriate name of *Bonfire*; colour dark vermilion shaded softly to crimson.

At present flowering in the stove are *Anthurium crystallinum* and *Cissus discolor*; and the good and sweet old greenhouse plant, *Rhynchospermum jasmynoides*, is represented by a handsome specimen trained on an oval wire trellis.

A reference to Mr. Gough's plants would be incomplete without noting two very remarkable Ferns in cases—*Todea* (*Leptopteris*) *superba*, and two plants of the well-known *Kilarny Fern* (*Trichomanes radicans*), quite models of healthy

growth. The former is a native of New Zealand, and to which no description could do justice. The fronds are over a foot long and of a bright green transparent texture, gracefully drooping. After a refreshing turn in the cool and charmingly constructed grotto where boating parties from Clonmel are allowed to picnic, after a pull up the river I leave, purposing to return to this attractive scene and subject again.—W. J. M., Clonmel.

GRAPES SCALDING—SEEDLESS BERRIES.

SINCE duty was taken off glass an impetus has been given to the erection of horticultural structures; thin crown glass has been supplanted by sheets of much greater thickness, and the panes or squares have been much increased in size, doing away with no inconsiderable extent of sashbar and a great many opaque laps; in other words, the light admitted to a house constructed upon modern principles is very much greater than was formerly the case with the old-fashioned system of heavy rafters, close sashbars, and small squares. There is no doubt of the advantage of the modern system in all structures from October to March inclusive, but in summer it is questionable whether large panes of clear glass have not much to answer for in scorching, attacks of red spider, and in the scalding of Grapes. Grapes scald only when the solar rays are most powerful—i. e., in June, July, and August, and in no instance have I seen a scalded berry in any other month. This would point to the evil being due to excessive solar heat aggravated by imperfect ventilation.

As conditions predisposing to scald I may mention grossness of growth, induced not so much by rich borders as by a close, moist, ill-ventilated atmosphere, which gives to the fruit the character of the foliage—viz., gross and watery. Scalding usually follows a dull cold period. When the atmosphere of the house is surcharged with moisture the berries swell rapidly, but in dull weather there is little or no evaporation going on from the foliage or berries; the skins of the latter are thin, having a deep green appearance, as also has the foliage. Upon a return to bright weather the house is suddenly heated, the leaves give off water, and the fruit also, but the latter cannot do so nearly so rapidly. They become heated by the surrounding atmosphere, for the direct rays of the sun are not necessary to cause scalding, and the whole surface of the berry affected is scorched, and then shrivels and falls. This is a bad case of scalding, due entirely to too low a temperature previously, and insufficient ventilation accompanied by too much moisture.

There is not much difference between this form of scalding and that which affects the Grapes in spots at the upper side of the berries or that side exposed to the sun which is somewhat less disastrous and easier of avoidance. The remedy for this as well as the preceding is, when the berries have stoned to afford a little ventilation at night and fire heat to maintain a temperature of 70° to 65° night, and afford very liberal ventilation by day, not allowing the temperature to rise above 80° without full ventilation, increasing it from 70° with increased sun. In order to save fuel fire heat is often only afforded when the Vines are being started into growth and when the crops are finishing, the Vines in the interim being solely dependant on solar heat, and at the same time no difference is made between the moisture afforded when fire heat is employed and when it is not. This tends, particularly in a dull period, to promote succulent growth and great leaf-development, which frequently results in overcrowding, and the fruit is then much liable to shank and scald. Grapes never do so well as in a house with a circulation of warm air, and when the fruit is ripening, rather dry.

Muscats ripening early in June sometimes scald, which is due to the want of that free day ventilation that is given to crops at a later period. When Grapes must be pushed to come in at a given time there is no alternative but two—First, to have a large extent of heating surface, so as to admit of free ventilation whilst maintaining the requisite temperature; or, second, to afford a slight shade, as that of hexagon netting, when the sun's rays are fierce, particularly after a dull period. These observations are given upon the assumption that the foliage is ample and fully exposed to light, not at one time crowded with laterals and at another time letting in a flood of light by removing the laterals by the barrowload; also that the atmospheric moisture is regulated by the weather. Vines, as a rule, receive too much atmospheric moisture and a too scanty supply at the roots.

Seedless berries are a consequence of immature wood and imperfect impregnation, and is more frequent in the case of those Vines that are very luxuriant. Thoroughly ripened wood and plump well-developed eyes usually afford bunches that set the berries well. Muscats, for instance, have the wood well matured set well in a night temperature of 60° to 55°, whereas those having the wood imperfectly ripened set as indifferently in one of 75° to 70°. Some Grapes, such as Black Damascus, Lady Downe's, Mrs. Pince, Black Muscat, and Muscat of Alexandria, are notoriously bad setters, and have a number of stoneless berries. Setting is promoted by brushing the bunches lightly when they are in bloom with a camel's-hair brush, or gently tapping the footstalks of the bunches with the finger so as to aid in the distribution of the pollen, and the maintenance during that time of a medium temperature of 75° to 70°; but as before stated, thoroughly ripened wood is of primary importance.—G. ABBEY.

ORIGIN OF LORD SUFFIELD APPLE.

I HAVE been anxiously waiting for an answer to your query as to when and where Lord Suffield Apple was raised; but I did not see a reply in my weekly friend, consequently I have made inquiries and learnt from an old inhabitant of Taunton, a small village within a mile of Ashton-under-Lyne, that Lord Suffield was raised by Thomas Thorpe, a hand-loom weaver of Boardman Lane, Middleton, near Manchester, but he could not give me the correct date of its raising, but that it was let out in 1836 or 1837, himself purchasing three buds from Thorpe at 3d. each in the year 1840, a tree of which stands still in his garden. The Apple was called Lord Suffield on account of Lord Suffield being then lord of the manor of Middleton.—FIR BOB.

A TRIPLET OF ROSE SHOWS.

THE wide-spread popularity of the Rose is to be measured in various ways. The innumerable host who grow the flower; the enormous quantities sold every year by a large number of growers; the acres that these growers cultivate; and last, not least, the exhibitions at which it is sometimes the sole flower exhibited, and at others where it is the *pièce de resistance*—all bear witness to the fact that it is the most popular of all flowers. And of these exhibitions it is not merely our great shows which bear witness to it—the great National Show at the Palace or at Manchester with its ten thousand visitors—but places where one would hardly expect to find it vie with each other in offering homage to the Rose; and having lately assisted at three of these minor exhibitions, a few notes as indicating the progress in favour of a flower dear to most readers of the Journal may not be unacceptable. Never would one more like to realise Sir Boyle Roche's notion of having the power of being in two places at once than during the Rose season. I was, on account of this unfortunate inability, unable to be present, as I had been invited, at Newcastle, Reigate, Maidstone, &c., my duties to the National hindering me in some cases and previous engagements in others, and so one had to be contented with seeing less. My first visit was to

UPPINGHAM,

A very quiet, quaint, old town in Rutland, out of the way, and might perhaps never have been known to the outer world but for the energy infused into an old institution by the Rev. E. Thring, who, undertaking the charge of the Grammar School when there were twenty-seven boys, has by his wisdom, indomitable energy, and capacities as a leader of men (and which is perhaps as difficult, of boys), made Uppingham School famous, and has done, what perhaps was never before attempted—migrated with his whole school when an epidemic of typhoid broke out, carried them away to Borth, and brought them back again when there was a clean bill, the school suffering no way in either prestige or numbers by its strange vicissitudes. Amongst the old institutions of the town is what is called the Feast Week, and it was a happy thought to give the holiday folks an opportunity of rational enjoyment by holding a flower show on one of the days. This was the second time that it had been attempted, and I hope that both the extent of the exhibits and the number of visitors will warrant its continuance.

The Show was held in the cricket ground belonging to the school, the authorities of which were deeply interested in the success of the day, and the Exhibition was arranged in three tents. It will not be needful to enter into any detailed account of it; suffice it to say that the large plants exhibited by Mr. House sustained his well-earned reputation, and that cottagers exhibited very creditable collections. The Roses were mainly contributed

by Mr. House of Peterborough amongst nurserymen, and by the Rev. W. H. Jackson of the Manor House, Hambleton, amongst amateurs. Amongst the blooms exhibited by the former were fine examples of Charles Lefebvre, Horace Vernet, Alfred Colomb, Marguerite de St. Amand, Maréchal Niel, John Hopper, &c.; while Mr. Jackson's blooms, of good average size, were clean and regular in shape. Amongst them were many of the old favourites as well as some of the newer varieties. The Rev. G. Christian also exhibited some good flowers, especially Teas, and the interest excited in the stands evidently showed that a Rose fever was becoming prevalent in the neighbourhood, far better than the typhoid which sent Uppingham to the sea. It was a very hot day, and I was not therefore sorry that I had arranged to leave for Scotland by the night train, although it was rather hard work, but at ten o'clock the next morning I found myself at

HELENSBURGH,

Where a Rose show *pur et simple* has been organised and under the indefatigable management of Mr. Galloway, of the firm of Galloway & Graham, is evidently taking the leading position in Scotland. I recorded the Exhibition last year, and showed how Messrs. Paul & Son and Mr. Cant met in friendly rivalry, and how I endeavoured very earnestly, as a Secretary of the National, to impress upon them the need of alteration in two particulars—one that of confining their Show to one day, the other of exhibiting their Roses without any added foliage. This year they have adopted both of these alterations, and in one to the manifest advantage of the Show, while I hope the other will be equally so to its financial condition. As I have already mentioned, they adopt here a very original plan in the setting-up of their Roses. The stages are arranged as tables with tubes in them, and each exhibitor, instead of putting up his own stand, has to place them in the spaces allotted to him. It is to my mind an inconvenient and undesirable plan. It certainly puts all in one sense on an equality, but then it is liable to create confusion and give no opportunity, in the case of closely contested stands, of comparing them; and all who have to judge Roses know often how very desirable this is, and how it often settles a disputed point. Nor was exact uniformity attained, as the flowers of one exhibitor were placed some 2 inches high out of the tubes, and I cannot but think that a change would be hailed by most exhibitors as a boon. Mr. Cranston, who seems this year to have been ubiquitous, entered the lists alone of English growers; and Mr. Dickson of Newtownards, Ireland; Messrs. F. & A. Dickson of Chester, so that it was truly an international contest; and in this case the laurels went, and deservedly, to Ireland, for the collection sent from there by Mr. Dickson of Newtownards was a really grand one, as its placing Mr. Cranston second will prove. But let it be said that the latter was not in good form; his Roses lacked freshness, whereas Mr. Dickson's were beautifully fresh and bright. Amongst them is a variety I have not seen elsewhere—Alexander Dickson, a fine showy flower, something in the style of Madame Schmidt. What was especially noteworthy here was the manifest improvement that had taken place amongst the local amateurs, and this is the most satisfactory result that the promoters could expect. To obtain external help is well enough, but after all what one wants to see is local growers stirred up, and I am sure this has been the result here. I have been present at three of their exhibitions, and beyond any manner of doubt this was the best of the three. The arrangements for the Show were excellent, the Judges were admitted in good time, and the kindness and courtesy of all concerned in the Show made everything agreeable. I cannot forbear here telling a story relating to myself. We were sitting together in the evening in the garden of my friend Mr. Galloway looking at his fine beds of *Gladiolus*, and at the same time enjoying our tea, when one of the friends present said, "I must tell you what happened to me some time ago. I was in the garden talking with my brother [I think he said] with the Journal in my hand and I said to him, 'There is something from 'D. Deal,' in the paper to-day.' The old servant overheard me, went into the house, and said to her mistress 'Eh! ma'm; but the maister says ther's something about the *deil* in the paper to-day.'" The third Show was

NEWTON STEWART,

And I have a peculiar interest in it; it was originated by one who was then a perfect stranger to me. He knew me only then by the Journal, and when I received a most pressing invitation from the Rev. G. W. B. Mackenzie to go to Galloway to judge at a Rose show I did not think how much I should afterwards be mixed up with it. Together we remodelled the arrangements, he by his energy sustained it, and I thought when he went to far-off Ceylon that there would be an end of it and my intercourse with Newton Stewart. I was heartily glad, then, when I was asked once more to take my place to meet its kind and genial inhabitants. The Show was held on the 23rd (the same day as the National Carnation and Picotee Show at South Kensington, at which I was consequently unable to be present), and here again the same result was obtained as at Helensburgh, a very marked improvement in the local exhibits both amateur and professional. Messrs. Dickson of Newtownards again contributed a

very fine lot of flowers; and Mr. Smith of Stranraer showed such blooms as he has never before exhibited. In Mr. Dickson's stand Richard Wallace, Duchesse de Vallombrosa, Star of Waltham, Sophie Tropic, Sultan of Zanzibar, Alexander Dickson, John S. Mill, and Mons. E. Y. Teas were especially fine, while his box of Teas, including Reine de Portugal (rarely seen), Homère, Smith's Yellow, another uncommon Rose; Souvenir d'un Ami, Souvenir d'Elise, &c., was excellent. In Mr. Smith's stand Oxonian, Madame Thérèse Levet, Baronne de Rothschild, Mons. Fournier, Prince Arthur, and Charles Lefebvre were especially good. The gardeners and amateurs contributed some excellent stands, especially considering the season. Such a summer has not been known in Scotland for twenty or thirty years—no rain for nearly two months, the burns nearly all dry, and the rivers very low. All this combined with most scorching weather deprived many an exhibitor of his hoped-for blooms; but there was a great improvement in the quality of the stands, fewer bad Roses, and many very excellent blooms which would not have discredited any show. I must here also tell a wee tale which I was permitted to tell at the dinner. I have said that Mr. Mackenzie the founder of the Show had gone to Ceylon. Well, a letter had been received from him a few days before I was there, in which in speaking of his neighbours, who he said had been so kind, he added, "— has given me a pig, and now I shall have plenty of (pork and sausages? oh, no!) good manure for my Roses." I think the most thoroughly rosarian view of the gift of a pig I ever remember to have read.

One great treat I enjoyed was the inspection of Mr. Vernon's new patent toilet ware, which is really most beautiful and elegant. One treat I did *not* enjoy was in stepping out of a drag I jarred my ankle, which will give me a memento of Newton Stewart for some time to come. I cannot close these rambling notes without expressing my deep sense of gratitude for all the kindness I have received in my ramble, and have again to bear witness to the heartiness of Scotch hospitality.—D., *Deal*.

A PLEA FOR TYDÆAS.

DURING the hot months of summer it is not easy to find plants for keeping greenhouses and conservatories gay without arranging the same kinds of plants under glass that are growing in the flower garden. While such plants as zonal Pelargoniums are admissible for indoor decoration in summer, some of the better and newer varieties being indispensable, it is not well that they should unduly preponderate. A change is always refreshing, and the eye generally rests with more satisfaction on plants in houses when they are not merely duplicates of plants growing and flowering in equal or better condition in the open ground.

Amongst plants that are extremely attractive when well grown and displayed under glass, and of which there are at the same time no representatives growing and flowering outside the houses, are Tydæas. The varieties of this genus are extremely diversified in colour and many of them are very beautiful. The lighter colours are remarkably chaste and the darker varieties intensely rich. These plants, however, are not exclusively summer flowers, for by starting the plants at different periods they will produce flowers "all the year round." In the depth of winter I have seen them much admired, but not more so than during the sultry months of summer, when, as before observed, they afford an agreeable change from the ordinary popular flowers that are usually grown in large quantities both in and out of doors. The varieties are very numerous, and some of them are not particularly striking, but the following half-dozen, selected from a collection in Messrs. Rollisson's Nursery at Tooting, are distinct and good.

Rosenovia Hanstenii.—Creamy white, with lilac and purple stripes, and rose blotches on the lobes. The flowers are large, and the plant is a strong grower, but does not flower so continuously as some other varieties. Good.

Rosenovia ornata.—Tube scarlet; upper sepals of the limb bright scarlet, lower one light amber spotted with scarlet. Very rich and glowing.

Venusta.—Flowers of excellent shape and good substance; colour purplish lake with crimson veins and spots. Very distinct and attractive.

Sape.—Intense velvety crimson, with crimson-purple spots; flowers large, well formed, and remarkably rich.

Robert le Diable.—Deep crimson, with velvety and nearly black veins and spots. A very dark and fine variety.

Madame Heine.—Although this is mentioned last it is quite one of the best and most useful varieties in cultivation. It has been previously alluded to as being considerably grown

and much admired at Kew. Its colour is rosy crimson covered with a delicate network of veins and spots.

Few plants are of more easy culture than Tydæas. During the growing season they require the same general treatment as Achimenes, but, unlike those plants, they must not be totally dried off during the resting period. It is probably to over-dryness in winter, or when not growing, that the loss of many Tydæas is attributable. Keep the soil moderately moist and the plants are safe.—J. W. S.

THE MADRESFIELD COURT VINE.

I HAVE made several experiments with this fine Grape, as, through its tendency to crack, it had become useless here. For several years I grew it inarched on the Black Hamburgh and Muscadine, these Vines being on their own roots—that is, there were four Vines. This inarching prevented the berries cracking, but they all became round and smaller than the Madresfield Court on its own roots. My last experiment was to inarch the Vine—that is, the Madresfield inarched on the Black Hamburgh—on a stout rod of Glendinning's Seedling, a strong-growing variety with large fleshy leaves, the berries being semi-oval, thick-skinned, and amber when ripe. The effect of this experiment has been to change the berries back again into their oval shape, considerably larger than I have ever grown them before and without any symptom of cracking. The Madresfield Court which I inarched on the Muscadine produced round berries precisely the same in all respects as the one on the Black Hamburgh. After a time I cut this Vine off from the Muscadine. For the first year the berries continued to grow round, afterwards oval and cracked.—OBSERVER.

THE ROSE ELECTION.

AS briefly as possible I reply to "WYLD SAVAGE's" strictures. I believe his friend did not reply to the circular; if he did he overlooked the taking several prizes at local competitions as qualification. "WYLD SAVAGE" praised his Roses extremely, founded on their excellence—a plea for giving up a practice that most successful exhibitors follow, and wound up with his success. What more natural than that a returning officer, anxious to secure every qualified elector, should apply, especially when his productions had been praised by so great an authority?

Next, I have never claimed for the election that it was a "guide to leading exhibitors." Why, what could it teach them? They know much more than the election or the returning officer can teach them, and what really is hoped for is to obtain the opinions of these leading exhibitors as a guide to the lesser growers. That it has thus been useful many willingly attest, and to that verdict I look rather than to that of our friend "WYLD SAVAGE," who, his great knowledge and powers notwithstanding, is just a wee bit crotchety, and apt to fire off his arrows without stopping to reflect whether the rebound might not tell against himself.

However, there are thorns enough on some of our favourites which we need not plunge into each other.

Meanwhile I may state that the circular this year has been sent, with but few exceptions, to prizetakers at the National, Alexandra, Hereford, and other shows, and I am quite certain beforehand that the result will not please everybody, consoling myself with the reflection that to others it will prove useful.—JOSEPH HINTON.

It may be in the recollection of your readers that when last year's election was first mooted some correspondents expressed a desire that Teas might have an especial recognition therein. Mr. Hinton's reply was that he could not attend to it then, but if spared to try another year he hoped to do something in this direction. Can he attend to this matter now?

As the general election is to decide the best forty-eight Roses, and as we are never, so far as I am aware, called upon to show more than twelve Teas (distinct sorts that is), I think it could be managed this way:—Name the best thirty-six Roses (Teas and Hybrid Perpetuals) and then twelve Teas in order of merit, the hardest, best growers, and freest bloomers.

I know "WYLD SAVAGE" is very partial to Teas, what does he think of this plan?—A LOVER OF ROSE SHOWS.

THE plan proposed by "WYLD SAVAGE" of obtaining lists of Roses from prizewinners at the great shows is an excellent one. The elections are primarily for the benefit of exhibitors

yet the results are very valuable and have been much acted upon by general cultivators when ordering Roses for the decoration of their gardens, for there is not much doubt but that the varieties placed high on the list as producing the best exhibition blooms are eminently suited also for garden and drawing-room embellishment. The elections, therefore, have been of great benefit to many, and Mr. Hinton has deserved and received the thanks hearty and numerous of almost all those who love the Rose for the labour he has incurred in conducting the elections.

If we are to have another election this year it will certainly, I think, be in the highest degree authoritative if conducted on the principle projected on page 84. It is doubtful, however, that the relative positions obtained by varieties of established merit will be practically altered by the returns proposed. That some change will be made in the case of certain varieties is only what may be expected, but will the change be really useful? The position is this, that although one old Rose may rise a few points and another be placed a few points lower on the scale, still all must be grown by those who grow Roses for the great exhibitions.

The varieties vary with the seasons. Last year Mons. Noman was well shown, this year it was seldom seen; it is, however, low on the list, possibly on account of its inconstancy. Charles Lefebvre and Alfred Colomb, which are placed second and third on the list, have been by no means frequently exhibited this year, although a few fine blooms of them have been staged, yet no one can dispense with those Roses in a collection in the garden. Much finer, and more often fine, have been varieties much lower on the list, such as Mons. E. Y. Teas, Horace Vernet, Beauty of Waltham, Duchesse de Vallombrosa, Jean Liabaud (not in the list at all), Annie Laxton, Xavier Olibo, Mrs. Baker, and some others. The positions of varieties of established merit will vary slightly if their merits are re-estimated every year, but the varieties will still be good and must be grown as heretofore.

What I think is a failing on the face of the elections is the injustice that is apparently done to the newer Roses. However good they may be they are years before they can win a high position in the list, simply because amateurs have not grown them in sufficiently large numbers to be able to assess their merits. What I think is required is a tabulated estimate of the merits of the Roses that have been placed in commerce say during the past six years. New growers of Roses do not want to know which are good amongst the older sorts, they are willing to accept previous returns as to them; but they want to know the comparative merits of sorts of recent introduction for the purpose of adding them to their collections. If a dozen of the principal growers and good judges were to direct their attention to determining the relative merits of new Roses as such, instead changing the positions by a few points of the old sorts, I think the returns would be of great value and interest.—AMATEUR ROSE-GROWER.

NORTH WALLS.

MR. TAYLOR is quite right in supposing that Marie Louise Pear will succeed well on north walls. I have tasted fruit of that excellent Pear which had been grown on the aspect indicated of quite superior quality; also fruit of the Jargonelle grown on the same aspect. It is well worth while trying a tree or trees of those and other early Pears on north walls, at least in the southern and midland counties, and in hot seasons it is very probable that they will produce fruit fully equal if not superior to that ripened in sunny positions—superior by being more juicy and less mealy. But apart from that, trees on north walls afford a valuable succession of Pears of sorts of such short duration as those named when the supply is wholly gathered from trees grown in warm sunny positions.

The question of retarding the blossom of Pears is one of considerable moment, and by no other means can it be done so well as by having a Pear tree or two against north walls. A gentleman has told me that a Jargonelle Pear tree trained against the north wall of his garden has proved more certain in producing crops than a tree on the south wall. Late Pears will, of course, not ripen in such cool positions, but early sorts will ripen there just as well, as will most of the Plums named by Mr. Taylor.

If it ever falls to my lot to again plant fruit trees against a north wall for affording a supply of fruit for a gentleman's family I shall certainly include a tree of Jargonelle, Citron des Carmes, and Marie Louise Pears, and the great bulk of the

wall shall be covered with Plums. Of trees that I planted a few years ago the only Plums this year bearing well are against the north wall; the bush trees and standards in the open garden being nearly barren, while Morello Cherries in the open are bearing quite as well as those against the north wall. If I were called on to cover a north wall in the most profitable manner—that is, with a view of raising the most money by the sale of fruit, I should plant Victoria Plums. No Plum, according to my experience, equals it for such a position. The fruit may not perhaps be quite so fine and highly coloured as fruit grown in the sun, but the trees on a north aspect bear prodigiously, and the fruit is very valuable and is purchased freely in the markets of the midland and northern districts.—A MIDLAND COUNTIES FRUIT-GROWER.

THE BATH AND WEST OF ENGLAND SOCIETY'S SHOW.

THE reply which "AN OLD EXHIBITOR" makes to his own query as to the usefulness of this Show (see page 23), proves that he does not understand its end and aim, and also that if he did he would hardly be prepared to accord it his sympathy, for he evidently can see no good to be derived from a public exhibition of his plants other than in competition for prizes after the usual fashion. To stand first in certain classes is the height of his ambition, and the feeling is unquestionably a laudable one. Nor can the time spent upon the culture of flowers, fruit, and vegetables for such exhibitions be regarded as time lost to an employer, for confined within just limits and devoted to the highest possible development of produce that is really useful, it renders a man more skilful and tends to promote excellence in every department of the garden under his charge. That is the legitimate purpose of exhibitions, and the schedules of prizes issued by horticultural societies may be regarded as good, better, best, according to the degree in which they encourage such purpose.

Unfortunately the common tendency to follow a beaten track obtains a striking exemplification in the schedules of provincial societies. Take any number of them, and you will find such a wonderfully close resemblance that degrees of excellence resolve themselves into pounds and shillings, anything like originality being extremely rare. "How I do hate the everlasting twelve stove and greenhouse plants! I don't believe that more than thirty species are shown during the summer. One sees the same plants year after year, and one seldom, if ever, sees a plant that is very difficult to grow." So wrote a friend to me the other day, and there is undoubtedly much truth in what he says. When one goes to report a show in a familiar locality one knows most of the plants beforehand. The never-failing Crotons, Palms, Ferns, Dracænas, Cycads, come before the public again and again, the prizes are shared by the same three or four, or at most half a dozen, exhibitors year after year, and the affair becomes somewhat tame and monotonous. Visitors come to the show, see, wonder, go away, and forget, for however much they may admire the elegance and beauty of individual plants, they find nothing instructive, gain no hints of culture or knowledge of plants that are really useful, but are rather daunted at the sight of plants so large that a couple of them would fill an ordinary greenhouse. What have they to do with such plants? Of course they can and do admire them, but then they want something more—they want to see plants as rich and rare as you please, but of an ordinary type as to size and form, arranged by skilled hands so as to show their true value and use.

The Bath and West of England Society recognise this want, and have given expression to such recognition by placing full powers in the hands of the steward of the horticultural department, and by the energy and taste of that gentleman afford the public a magnificent display of plants and cut flowers that is quite unique. In the arrangement of the plants full effect is given to the contrast and harmony of colour, to blending form with form, to light and shade, and the result is a superb picture abounding with grace and beauty; or rather it should be said a series of pictures, for as we go up and down the huge tent the eye is arrested by artistic combinations varying at every step, and yet there is a connection and flowing grace running through the whole.

It was my privilege to watch the formation of those artistic plant groups at the late Oxford Exhibition, and as they grew into beauty under the skilful supervision of Mr. Boscawen, his prompt "No, no!" or hearty "Well done!" guiding the work with unerring precision, a lesson of such value in plant

arrangement was given that one could not help wishing every gardener in the district had been there to profit by it. Probably most of them did go at some time during the week with pleasure and some profit, for no thoughtful man could inspect the Show without being impressed by its usefulness. It takes high ground, nothing but what is really meritorious being admitted; the highest standard of horticulture in each district thus being fairly represented. Moreover, no one is made to hide his light under a bushel; every fine plant or group of plants bears the name of its owner and the gardener upon a handsome card placed in a conspicuous position, and adequate remuneration is made to every exhibitor for the time, trouble, and expense of taking produce to the Show.

Surely the managers of horticultural societies generally might take a hint from this and extend the scope and usefulness of their exhibitions by affording space for mixed groups of plants useful for the decoration of a drawing room, corridor, vestibule, or conservatory. Much good might also be done by offering premiums of some kind or other for single specimens or groups of plants limited to certain sorts either uncommon or of difficult culture, of which a list should be given.—EDWARD LUCKHURST.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 6TH.

FRUIT COMMITTEE.—John Lee, Esq., in the chair. Messrs. Charles Lee & Son sent ripe fruit of Lawton Raspberry, to which a letter of thanks was awarded. They also sent fruit of Hampton Court Peach, a form of Grosse Mignonne. Mr. Sidney Ford, gardener to W. E. Hubbard, Esq., Leonardslee, Horsham, sent a seedling yellow-fleshed Peach which was unripe. The following fruit was received from the garden at Chiswick—Galopin, a very large Nectarine of good sprightly flavour, and Duke of Buccleuch Grape. Messrs. Rivers & Son of Sawbridgeworth sent fruit of Advance Nectarine, which was excellent in flavour, as also Pine Apple Nectarine. Mr. W. Thomson of Clovenfords sent a splendid bunch of Duke of Buccleuch Grape weighing 2 lbs. 14 ozs., to which a cultural commendation was awarded. The berries were enormous and of fine colour, and there was no trace of the spot which is sometimes found in it. Mr. John Chater, gardener to Sir Charles Isham, Bart., Lamport Hall, sent a seedling Melon raised between Cox's Golden Gem and Bloxholm Hall, but it was not in good condition. Mr. H. A. Mann, St. Vincent's, Grantham, also sent a seedling Melon which was inferior in flavour.

The following were brought from the garden at Chiswick—Vick's Criterion Tomato, Trebons Onion very fine, four varieties of Beet, consisting of Bassano, Egyptian Turnip-rooted, Nutting's Dark Red, and Richardson's Pine Apple. It is noteworthy that these being all sown at the same time, the Turnip-rooted varieties were almost fully grown and fit for use, but the long varieties were but little advanced and would not be ready for a long time.

Mr. Sidney Ford sent a collection of forty varieties of Potatoes, to which a silver Knightian medal was awarded. A very fine collection of twenty sorts of Cabbages was received from the garden at Chiswick, which evidenced very good cultivation, and a cultural commendation was awarded.

FLORAL COMMITTEE.—Dr. Denny in the chair. The great attraction at this meeting was the numerous quantity of Tuberous flowering Begonias which came from the Society's garden, Chiswick; Messrs. J. Laing & Co., Stanstead Park; Messrs. Veitch and Sons, Chelsea; and Messrs. Hooper & Co., Covent Garden. An exquisite collection of forty-eight varieties of *Gladiolus* came from Messrs. Kelway & Sons, Langport, to which a gold medal was worthily awarded, fifteen varieties of which were Mr. Kelway's seedlings of this season, and three of them received first-class certificates—namely, Telamon, a large flower of good substance with a fleshy ground, and flaked with scarlet with a light throat. Gogonius, an immense flower, measuring 4 inches in diameter and having twelve fully expanded flowers on the truss; the pipes were a red ground heavily blotched with a deeper red, the throat carmine—a very attractive variety. Herios, bright rose flaked with carmine, ivory white throat; very showy and distinct.

Messrs. Laing & Co.'s collection of eighty plants of Tuberous Begonias were much admired, and were nearly all raised from seed sown on January 24th of this year. A few large plants of Paul Masurel, Emperor, and Madame Oscar Lamarche added to the beauty of the background of the group, and the whole collection was most highly attractive and deserved the gold medal awarded to them. Messrs. Hooper & Co. also sent a large collection of Begonias, including Lustre, Paul Masurel, Sedeni, Eldorado, Salmoena plena, and Montrose.

A very interesting collection of seedling Gloxinias raised in 1878 also came from Messrs. Hooper, to whom a silver Banksian medal was awarded. Mr. B. S. Williams, Holloway, also received a silver Banksian medal for a tastefully arranged group of fine-foliaged plants, amongst which were *Crotons Jamesii*, Williamsii, Prince of Wales, and the compact and bushy variety *C. campto-*

phyllus; *Dracenas*, *Caladiums*, numerous Palms, and *Coleus* Lords Falmouth and Oxford.

A gold medal was deservedly awarded to Messrs. Veitch & Sons for an extensive collection of *Nepenthes*, including *Nepenthes Kennedyana*, the only variety found in Australia; *Sarracenia*, *Cephalotus*, *Drosera*, and other insectivorous plants; several varieties of *Begonias*, such as *Begonia Veitchii*, *Roseflora*, and *Davissii*, which illustrated the origin of the various types that are now infused in the numerous varieties of the present day, and a basket of that free-flowering and highly attractive hardy shrub *Hydrangea paniculata grandiflora*; also fine cones of *Araucaria imbricata*, gathered at their Coombe Wood Nursery.

From Mr. Cannell, Swanley, came cut flowers of *Geraniums* and *Verbenas*, which received a vote of thanks. Over two hundred plants of flowering *Begonias* were sent from the Society's garden at Chiswick, and arranged on tables extending the whole length of the entrance vestibule, and amongst the most attractive we noted Moonlight and Sunshine, raised by Col. Clark; *Vesuvius* and *Emperor* (well-known and attractive varieties), raised by Veitch & Sons; *Solfaterre*, by Fröbel & Sons; *Worthiana*, *Oriflamme*, and *John Laing*, by Lemoine; and a double-flowered variety (*Gloire de Nancy*) by the same raiser; *Feu de Joie* and *Eldorado*, raised by Chantrier. The whole of this extensive collection were remarkably well grown and flowered.

First-class certificates were also awarded to Messrs. Laing & Co. for *Begonia* Mrs. Dr. Todd, a brilliant scarlet, large, free-flowering variety, with a good habit; to the Royal Horticultural Society for *Begonia* Chiswick (blush), raised at the Society's gardens; flowers medium size, white inside and blush out, of fine habit and very free flowering. Botanical commendations were awarded to Messrs. Veitch & Sons for *Torenia Baillonii*, and to Mr. B. S. Williams for *Dendrobium Albertisii*, a curious Orchid of no great beauty from New Guinea; it is the first of the New Guinea Orchid introductions that has ever been exhibited. Another very rare-flowering Orchid was sent by Mr. Osborn, gardener to — Buchanan, Esq., named *Odontoglossum Lindenii*, and originally introduced from Columbia. Mr. R. Dean, Ealing, exhibited a very dwarf form of *Golden Feather*, which must become useful for carpet-bedding purposes when better known.

NOTES AND GLEANINGS.

THE violent THUNDERSTORM which swept over the metropolis and its vicinity on Friday night has, we learn, done much damage in parks and gardens. Much destruction has been caused to timber trees, which are now heavy with foliage; fruit has been dashed from the trees, flowers have been despoiled and broken, and gravel and soil have been washed into heaps. A close murky atmosphere has prevailed for several days past, and unless a change speedily occurs the Potato disease is almost certain to set in, it may be with virulence. On the nights of Sunday and Monday the storms continued at intervals, rain falling in places at the height of about an inch an hour. A letter from Lancashire informs us that rain is much wanted there, and that late *Rhododendrons* are drooping and late-planted shrubs are dying by want of water.

— MESSRS. VEITCH'S NURSERIES at Chelsea are at all times worthy of a visit. No one can visit them now without recognising the value of *Yucca recurva* as a lawn and garden ornament of great value. The rows of fine specimens of this *Yucca*, surrounded by groups of hardwooded plants and arranged in the main walk of the nursery, are quite imposing. In one of the cool houses a number of plants of the valuable *Hydrangea paniculata grandiflora*, grown in the open air at the Coombe Wood nursery, are just expanding their flowers. This fine hardy *Hydrangea* should be grown in every garden. Tuberous *Begonias* from the majestic *Monarch* and *Emperor* to the brilliant gem *Davissii* are yet in beauty, but some of them are fading. The rich, glowing, velvety crimson Mrs. Scorer is quite one of the finest; but an older variety, *Sedeni*, is yet one of the most valuable of the section. *Roseflora* and the newer *Queen of the Whites* are a distinct pair and very free. Many of these *Begonias* are flowering beautifully on the rockery, where they have passed the winter without injury. Not many Orchids are flowering now. A few of the more striking are *Cattleya Eldorado* with its rich golden throat, *Oncidium macranthum*, *Dendrobiums albo-sanguineum* and *formosum*, several *Cypripediums*, including the richly spotted *C. Veitchii* (superbians), and the new *Spathoglottis Petri*, recently introduced by Mr. Peter Veitch. The new *Ardisia Olivierii* is flowering in one of the stoves. In foliage and habit of growth it is not unlike an *Allamanda*, and it has large terminal pyramidal heads of pink lilac-tinged small flowers. *Ixoras* are also in beauty—they nearly always are—I. *Fraserii* being noticeable by its fine habit and deep salmon flowers. In one of the trial flower beds a beautiful effect is produced by the new

Wave of Life blue Lobelia mixed with silver tricolor Geranium Mrs. John Clutton. This Lobelia has very large flowers, and will be valuable for large beds; a more compact-growing variety of great merit is Blue Perfection.

SOME of the prettiest FLOWER BEDS that we have seen this year are in Mr. Baring's enjoyable and well-managed garden at Coombe Cottage, and yet they are simple—just the variegated Lady Plymouth Geranium mixed in one case with Crimson King Verbena, and in another with Purple King. These beds afford an agreeable change from the rich masses of scarlet Geraniums. Some other beds are planted with the Oak-leaved scented Pelargoniums and Gnaphalium lanatum, and the silvery sprays of the Gnaphalium peering through the masses of green produce a cool chaste effect, which is much admired. Beds of Clematis Jackmannii are gorgeous, and this and other Clematises with Honeysuckles, Virginian Creepers, &c., growing in wild luxuriance on walls and in festoons, constitute a noteworthy feature of this enjoyable garden. Other features are equally worthy of record, but they cannot be referred to now.

A CORRESPONDENT, "R.," tried the experiment of BOTTLING GREEN PEAS and BEANS in the same manner as fruit by putting them in bottles with cold water and then standing them in a pan of cold water, which was put on the fire until the water boiled, after which they were corked and sealed up when hot. In a few days the corks were blown out. When we tried them last year the bottles exploded. Can any of our readers give any information on preserving these vegetables for winter use?

A MODE of supporting MELONS hanging from a trellis as adopted in the Hon. A. Leslie Melville's garden at Branston Hall is worthy of note. Instead of the fruits being supported by a piece of board or suspended by matting each fruit rests in a small openly-woven yet strong wickerwork basket. The baskets are about 6 inches in diameter, and are of the shape of a large saucer but deeper. They are made at the local basket makers, cost about 3s. a dozen, and last for years. They are suspended to the trellis with string, and have a very neat appearance. On the occasion of a recent garden party held at Branston nothing was more attractive to the visitors—and the garden was extremely gay with flowers—than the fine crop of Melons, each fruit resting in its basket, and producing a somewhat novel yet pleasing effect.

WHEN recently visiting the small but admirably kept garden of J. Swan, Esq., Stonefield, Lincoln, we observed the fine greenhouse roof-covering plant, TACSONIA INSIGNIS, flowering freely. The exuberant growth of this Tacsonia, its fine foliage and pendant crimson flowers, recommend it for covering the roof of a house quickly and ornamentally. T. Van-Volxemi planted in the same house had not grown nearly so freely and had not produced any flowers, both the plants being of the same age. Mr. Brumpton, the gardener, stated that he had tried various plans for inducing T. Van-Volxemi to flower, but without success, while T. insignis flowered freely by simply being planted in the border and having its growths thinly trained near the glass.

A FINE plant of the VARIEGATED AMERICAN ALOE will shortly be in flower at Hampton Court. The plant is on the south terrace, and the flower spike reaches an altitude of about 18 feet, and appears to be little less than 18 inches in circumference at the base. The stem is branching freely, and will produce upwards of a hundred flowers.

IN many gardens we find that VICK'S CRITERION TOMATO is regarded as a valuable acquisition. It produces smooth, highly coloured, crimson fruit in large clusters, and its firmness and flavour render it a great favourite with the kitchen authorities. The plant is a rather strong grower, and requires more room than some other varieties, but when well grown it is undoubtedly one of the most distinct and valuable varieties in cultivation.

A VISITOR to Wimbledon House informs us that the large FIG TREES that Mr. Ollerhead removed from the garden into two of the houses during last winter have proved amongst the greatest successes that must be placed to the credit of that energetic gardener. In the garden the trees were of little value, but in the house they have produced hundreds of fine fruits, which were particularly acceptable for camp parties at Wimbledon during the recent Volunteer contests. Already the trees have produced two fine crops, and other fruits are forming freely. It will be remembered that the trees which were aluded to at the time of their removal were old and of

very large size when lifted, each quite filling a large house 20 to 30 feet long and nearly as wide. They appear to have received no check whatever by removal, and their present condition is altogether satisfactory.

I ADVISE, says "A SPECIALIST," the LIFTING OF ALL POTATOES so soon as the skins are set. Those we have raised are very clean and of excellent floury quality. International Kidney is a wonderful crop. Beauty of Hebron also turns out grandly, those being every way very superior. Rector of Woodstock is difficult to boil; it is so floury. Bountiful is clean and beautiful. Veitch's Ashleaf, Snowflake, Early Vermont, Red Emperor, Model, Bryanstone Kidney, Prince Arthur, and Schoolmaster are heavy in crop and cleaner than we have had Potatoes for some years. Lapstone is not at all up to the mark this year in anything except quality, which is first-rate. Early White Kidney and Early Market have turned out well and are of capital quality. Late kinds are much impeded in growth by the drought, and in some instances are completely at a standstill. It will be no use lifting those, though it would be better to do so in the case of sorts likely to supertuberate, which ruins the crop. The first tubers if lifted before supertuberation takes place will be all right though small and light in crop.

"OUR WOODLAND TREES" is the title of a new work (shortly to be published by Messrs. Sampson Low, Marston, and Co.), from the pen of Mr. Francis George Heath, author of the "Fern World," "The Fern Paradise," &c. The volume, in addition to a descriptive account of British forest trees—illustrated by coloured plates of leaves photographed from nature, and by wood engravings—will include chapters on "The Life of a Tree," "Trees in Towns," "London Trees," Sylvan Streets," &c. "Some Woodland Rambles" with accompaniment of photographs will introduce the reader to some of the most charming scenery of the New Forest. There will further be included in the volume a brief history of the Epping Forest question, whilst also relating to Epping Forest are some descriptive chapters of rambles "Where the Green Leaves Quiver," "Through a Green Ride," and "At Midnight."

It is stated, on the authority of the *Agricultural Gazette* of Hanover, that a discovery has recently been made of a new remedy for the PREVENTION OF RAVAGES TO CABBAGES by the common caterpillar. A steward of an estate in Hanover having observed that one bed of Cabbages was left untouched by caterpillars whilst others were infested with them, found that the healthy bed had a quantity of Dill growing on it, the smell of which, apparently, was obnoxious to the caterpillars. As Dill will grow in almost any soil, it is suggested that the experiment might be tried by agriculturists. As indicative of the possibility of there being some truth in this, *The Colonies and India* says:—"We have heard of the common green ('Gooseberry') caterpillar being kept off by planting Broad Beans close to the bushes; and the Pyrethrum, a strong-smelling weed which is cultivated as a garden border flower, is said to protect Vines from the ravages of the *Phylloxera*."—(*Nature*.)

As showing the great quantities of GARDEN PRODUCE RAISED IN FRANCE, she exported in one year, after supplying her domestic consumption, 3257 tons of Oranges and Lemons, 42,700 tons of fresh fruit, 14,000 tons of dried fruit, 2135 tons of preserves and conserves, 21,300 tons of Nuts, 24,161 tons of dried vegetables, and 173,144 tons (6,414,042 bushels) of Potatoes.

ARAUCARIA CONES.

It appears to me that "W. J. M., *Clonmel's*," Araucaria mentioned on page 91 is the female tree, as I have been assured the form of the cone is globular. We have here one that bears cones freely every year, and is evidently the male or pollen-bearing tree. The form of the cones is something like that of the *Pinus nobilis*, but, instead of standing erect as the cones of that noble Pine, they hang pendant. This season I have sent some of these cones to a gardener that I should think has the female variety, and if so no doubt we shall see the result. I was told by one of our leading nurserymen that it did not mature its seed in this country, but I have also heard that it has. If I hear more about it I will communicate it to you.—T. C.

[The male catkins are ovate-cylindrical, usually growing in clusters of from six to seven at the ends of the branches. The female cones are solitary and erect, they are oblate or nearly globular, and are from 6 to 8 inches in diameter. The tree is

diceious, yet a specimen at Bicton was singular in producing male and female cones on the same branch. Young plants have been raised in both England and Scotland from home-grown seeds.—Eds.]

PLEIONE LAGENARIA.

A CORRESPONDENT, "A. M. B.," sends us a postcard containing the following request:—"What are Indian Crocuses like?" We can best reply by publishing one of the most beautiful of the Pleiones, which has been described as a gem amongst gems. The pseudobulbs are distinct from any other species, being flask-shaped with a peculiar overlapping neck. The flowers are large and solitary; sepals and petals narrow, deep rose colour; lip very large, waved at the margins, white variegated with yellow and rich purple. It flowers profusely during the depth of winter. Native of the Himalayas. The majority of the species grow at elevations of from 6000 to 8000 feet in the forests of Nepal, Sikkim, and Bhotan, and when in flower are said to present a most gorgeous aspect, causing the woods to appear all ablaze. They are mostly grown in pots, but succeed equally well upon blocks; in the latter way they require more sphagnum about them than most



Fig. 16.—Pleione lagenaria.

plants grown in a similar manner. When grown in pots, which is undoubtedly the best method, they should have ample drainage. The soil should be fibrous peat, sphagnum moss, and rich leaf mould in equal parts, adding a small portion of silver sand; but the curious little pseudobulbs should not be elevated above the rim of the pot, as in the usual method of potting Orchids. During the growing season moderate heat and an abundance of moisture are necessary to the development of large strong-flowering pseudobulbs; after these are formed they may be removed to a cool house and kept tolerably dry until the flower buds begin to show themselves at the base of the old bulbs, when additional heat may be applied with advantage.

MARGAM PARK.—No. 1.

THE SEAT OF C. R. M. TALBOT, ESQ., M.P.

ONE of the most charming seats in South Wales, and which deserves to be more widely known than it is, is Margam Park, the chief residence of C. R. M. Talbot, Esq., the senior member for Glamorganshire and Lord Lieutenant of the county, and one of the most extensive landed proprietors in the United Kingdom.

The place itself is old, though the present princely and

elegant mansion is modern; and the grounds, while retaining many of those features which age alone can impart, have at the same time much of the grace and beauty of youth. It would be impossible in a short sketch like the present to do more than touch upon a few of the many features of interest about the place. Unlike nearly all other Welsh parishes the name of Margam is involved in obscurity. It is probably a corruption of Morgan. In very ancient times it went by the name of Pendar—i.e., an eminence covered with Oak trees, and to this day the Oak-clad wood within the grounds is a familiar object to travellers by the Great Western Railway passing along this route. In the olden time Margam was a place of considerable importance, possessing as it did a noble monastery, and lying on the great Roman road which connected Carleon with Carmarthen.

At the dissolution of the lesser monasteries in the reign of Henry VIII. Margam became the property of Sir Rice Mansel by purchase, and it was after this for two hundred years the home of the Mansel family, which removed here from Penrice in about the year 1545. On the death of the last Earl Mansel in 1750 the property came into the possession of Thomas Mansel Talbot, Esq., who afterwards left Margam and lived chiefly at Penrice. The present owner having, however, rebuilt Margam on a new site about forty years ago, it has since been his principal seat.

Margam Park is situated a few miles to the eastward of the pleasant town of Neath, and is about equidistant from the Port Talbot and Pyle stations on the Great Western Railway. The drive from Port Talbot with its copper-smelting chimneys and vapours, and its yellow sand ridges bordering the Bristol Channel at this place, affords but little promise of the grand old demesne in its neighbourhood. Soon, however, the road bends inland, and conducts to a small cluster of houses containing a handsome school house and a small curious-looking octagonal-shaped chapel built by the present Mr. Talbot for the accommodation of the residents about the place. At this point the visitor enters the main approach, which conducts by a slightly ascending gradient through an old Oak plantation to the gardens, pleasure grounds, and mansion. This Oak plantation is a noteworthy feature of the Park, its extent being about 800 acres, while from the altitude to which it is carried it is made to form a background of great beauty and richness to the other attractions of the place.

After a drive of about a mile from the gateway we reach the gardens, over which we are conducted by the genial and highly efficient head gardener, Mr. Muir. The special features of the gardens we reserve for another paper; suffice it to say that after examining them with great interest we are conducted through the orangery adjoining, and the vast and elegant Doric building, specially constructed about ninety years since by the present proprietor's father for the accommodation of the Orange trees in winter, with three graceful fountains in front, the whole forming a feature of much interest and beauty.

We find in the thick clusters of shrubbery which surround the cleanly-kept lawn here many plants of rare excellence. Wellingtonias from 50 to 60 feet high, well furnished from top to bottom; large Sweet Bays, nearly the same size, and almost as much in diameter; the common Portugal Laurel grows to the height of 40 feet; Taxodium sempervirens, 50 feet; Ailantus glandulosa, from 40 to 50 feet; indeed, we never remember having seen better specimens of trees and shrubs of all kinds than are to be found here. We measured one large tree of Platanus orientalis, 70 feet high and 76 yards in circumference, furnished to the ground with branches, and in perfect health. Hydrangeas grow from 8 to 9 feet high, and some of the plants are no less than 18 feet in diameter, and produce from two to three hundred trusses of bloom in the season. A Camellia (Double Red) growing outside is 18 feet high and 20 yards in circumference, and produces hundreds of flowers yearly.

The spaces between the shrubs afford extensive outlooks through the pleasure grounds. The eye is soon attracted, however, by portions of old ecclesiastical ruins in beautiful preservation. There are portions remaining and carefully preserved of the old abbey of Margam, which dates from about the twelfth century. Parts of the walls, containing beautiful specimens of the old windows and pillars, and portions of Gothic arches are scattered over a considerable extent of ground, showing the large space the abbey must have covered in the days of old when the monks inhabited it. Nearly the entire shell of the chapter house still stands, forming one of the most elegant remains in England. It is nearly circular in

form, and about 50 feet in diameter. The windows are fine specimens of pure Gothic. The carved pillars which once supported the roof still stand comparatively little injured, but the roof itself has fallen in. A number of crosses and mural tablets, which are supposed to have originally recorded the names and qualities of deceased abbots or other dignitaries, now rest against the wall. The carvings and inscriptions on them are almost completely obliterated. Much labour has been judiciously expended in restoring portions of the old walls and preserving them from further decay; and well deserving are they of such care, for it is rare that ruins are to be found amid surroundings that lend to them such grace and charms. The parish church, which stands in close contiguity to the old abbey, originally formed a part of its nave. It is a good specimen of old Norman architecture. The west front and massive pillars are twelfth-century work, built of stone brought from a quarry near St. Donat's, upon which age and weather

seem to have little effect. In the church stand some very handsome tombs with recumbent figures, in memory of the Mansel family. It was rescued from decay by the present Mr. Talbot's father, and is now regularly used for public worship. It appeals strongly to one's sense of the beautiful to stand at a little distance and view the ruins of the abbey with the Orange house and church in the front, relieved against a pyramidal-shaped hill of about 600 or 700 feet in height, clothed to the very summit with the sober-tinted foliage of the thickly clustered Oak trees.

Turning to the right a view of a different but not less exquisite kind of beauty meets the eye. At the further end of a vista amongst the lovely trees is seen the noble and graceful end of the mansion, with its lofty tower standing in sharp relief against the sky. The approach to it is up an inclined plane, broken here and there by flights of steps extending the whole width of the roadway, some 30 feet. We have rarely



Fig. 17.—MARGAM PARK.

seen a more charming architectural object than the view of the house as seen from this point. Ascending the approach we find that the house is of grand as well as of elegant proportions. Its site has been skilfully chosen on a plateau between the hills above and the lower grounds where the gardens and orangery are situated. It would be difficult to conceive a more beautiful situation, sheltered as it is by the well-wooded hills which lie behind it from the northerly and easterly winds; while to the south and west are far-reaching views, embracing a picturesque stretch of Glamorganshire in the foreground, with the wide expanse of the Bristol Channel behind, and the hills of Somerset and Devon in the distance closing-in the prospect.

A small but tastefully laid-out geometrical flower garden occupies a portion of the plateau on which the house stands. It is bedded-out in the usual way with Geraniums, Calceolarias, Verbenas, Coleuses, dwarf Candytufts, Mesembryanthemum cordifolium variegatum, Violas of different colours, and other plants all neatly arranged in the different beds, which for individual and general effect it would be difficult to surpass. The building was, as we have stated, designed by Mr. Talbot the present proprietor, and erected under his superintendence about forty years ago. We do not pretend to furnish an architectural description of it, but the engraving which accompanies

this notice will convey better than words a conception of its elegant proportions. We should estimate the height of the tower at about 100 feet. The view from the summit of it on the hill, or sheltered side, reminds us of that from Drummond Castle in Perthshire; but the far-reaching panorama on the lower side supplies a variety and interest that are wanting in that celebrated highland castle. It would be an intrusion on privacy to seek to carry the reader through the interior of this fine mansion. Suffice it to say that the Gothic entrance hall and staircase we have not seen excelled in domestic architecture, while the treasures of art which the rooms contain, and the style in which they are furnished and ornamented, bespeak limitless wealth expended under the guidance of refined artistic taste.

It may not be inappropriate to finish our present sketch by stating that Mr. Talbot, the proprietor, is the father of the House of Commons, having represented Glamorganshire for the long period of forty-nine years. He has been several times opposed, but never defeated. He was in parliament when the present premier was struggling into fame as a novelist and long before he had entered the arena of politics, and also before the present Queen was crowned. He has been twice offered a peerage, but declined it. He received much sympathy two years ago on the occasion of the death of his only son at

the age of thirty-three years. Mr. Talbot has three daughters, the second of whom is married to J. Fletcher, Esq., of Salton Hall near Edinburgh.—A. PETTIGREW, *Castle Gardens, Cardiff*.

DISBUDDING ROSES.

IN the *Journal of Horticulture* you most kindly admit letters upon all subjects. As an old Rose-grower I am, of course, most interested in those that are written on the subject of the queen of flowers. Everyone has, of course, a right to his own opinion—*chacun à son goût*; but I hope that it will not be thought very presumptuous in a poor old fogey if he takes the liberty of disagreeing with your correspondent "A. C." on the subject of disbudding Roses. He states in his letter, published by you August 1st, that "Since the Rose show month my Roses have been doing exactly as they like." So have mine, and a jolly time they seem to have had of it. I do not like only to write what my experience of letting my beauties alone is, but beg to enclose you, for the advantage of your numerous visitors, two trusses that I cut off one plant of Mrs. C. Wood (one has eighteen, the other twenty-one buds), also a single truss of La France with twenty-nine buds. I send them as samples of what a Rose show might be if carried on under the suggestion of "A. C."

Though very near the threescore years and ten I still look with much pleasure on the lovely forms around me, and confess that the Lesbias of the present day are, perhaps, sometimes a little tightly laced, but I think that the Norah fashion (of course I only compare them in the way of Roses) gives rather a confused idea (*vide* trusses sent), of what beauty is; but if the world at large would consent to an exhibition of Lesbias and Norahs I would willingly agree, if considered competent, to be one of the judges, and a friend of mine who is reading this over my shoulder says he will also be a judge, and if we do not agree can call in some other old woman to give her casting vote.—AN OLD ROSE-GROWER, T. F.

NOR too frequently nor too plainly has "A. C." denounced the plan of disbudding Roses that is now so common. To produce the grand blooms that win cups at exhibitions disbudding is imperative, as the prizes are awarded to the most perfect individual blooms that can be produced, and not to "trusses," as the blooms are anomalously and officially described in the schedules.

It is rare indeed to see a naturally grown and beautiful truss of Roses at a Rose show. Grandeur of isolated blooms prevails there, but it is a formal artificial kind of beauty that does not display the Rose in its natural state of loveliness. The present system of Rose exhibiting must continue, no other plan can supersede it; but it would be just as well to call the blooms by their right names. Yet, as so timely suggested by "A. C.," cannot supplementary classes be made for exhibiting Roses in trusses—that is, a stem containing as many blooms and buds as the exhibitor chooses to stage? Boxes thus filled would afford a delightful change from the present monotonous—grandly monotonous if you like, but still monotonous—aspect of Rose shows; and the trusses, real trusses, would afford by far more truthful and correct ideas being formed of the several varieties than does the present system of exhibiting only highly fed and isolated blooms.

In regard to Roses and Rose-showing it is well to bear in mind that by far the greater number of visitors who are admirers and growers of the flower are those who wish to see the varieties exhibited so as to show their natural characters. Not one grower of Roses in ten grows them on the disbudding system so as to produce a few grand blooms for exhibition, but they grow them for producing trusses for beautifying their gardens and adorning their homes.

The two systems referred to are essentially distinct, and the blooms produced by one mode and the trusses by the other cannot compete in the same class. Let blooms be called blooms and trusses trusses, and let classes be formed accordingly, and Rose shows will be more varied, interesting, and instructive.—OCCASIONAL EXHIBITOR.

THE FLORA OF CYPRUS.

SPEAKING of the flora of Cyprus Drs. Unger and Kotschy, in their work "Die Insel Cypern," say:—

"In Cyprus prairie or meadow land does not exist; the 'Ackerland' takes the place of it. After the rains, but only for a short time, cereals give a satin-like green to the land-

scape; and among them grow a profusion of flowers; but these artificial rather than natural fields fade more quickly than the flowers, and scarcely last a few weeks beyond the last spring rain. There is only one small corner of the island where the vegetation resembles ours. The great heat of the summer destroys all the tender plants; only those plants survive which, through their anatomical construction or hard substance, or in consequence of growing near water, can resist the effects of the heat.

"There is great resemblance in the vegetation throughout the island to the Mediterranean. In February and March there is on all the river edges a profusion of Lilies; in April and May on the land side is one carpet of flowers. During the heat, however, the land assumes a yellow tint. Pine forests abound, Olives, Myrtles, and Laurel trees. As far as the island has as yet been explored we know that there are a thousand different sorts of plants. No eastern island can show such a rich forest growth as Cyprus.

"The *Pinus maritima* in Cyprus covers the hills and mountain regions to the height of 4000 feet as one of the commonest trees. The *Pinus Laricio*, which covers all the heights to 4000 feet above the sea, rises on the western mountains of the island to 6000 feet, and gives it a dark appearance from the sea. The wild Cypress (*Cupressus horizontalis*) is the third tree which grows commonly in the eastern part of the island and in some places forms by itself entire woods. On the whole of the northern chain of mountains this wild Cypress grows often to the height of from 2000 to 3000 feet above the sea. Great forests of wild Cypresses must also have covered the whole of the south of the island, as also a shrub, the *Juniperus phœnicea*. In the north several varieties of Oak are found, and throughout the island the *Arbutus* abounds; the Carob tree and Olive flourish on the banks of all the rivers and up to an elevation of 1000 feet above the sea."

HAMPTON COURT GARDENS.

THE floral embellishments of the public parks in the vicinity of the metropolis constitute an important feature of their attractions. Artistic merit of the highest order is exemplified in those parks, and skill both in the culture and arrangement of plants and flowers is strikingly displayed by the several managers.

Although situated at some distance from the metropolis, yet Hampton Court may be said to belong to the Londoners; it really belongs to all, for the palace and gardens are free to all comers on six days out of the seven. The gardens indeed are open on seven days, but the State apartments are closed on Fridays, a fact that visitors occasionally overlook and consequently experience some disappointment when they arrive at this celebrated place of public resort on that "unlucky day." Such disappointment, however, as that experienced by some visitors on Friday last is, it is hoped, not common. A gentleman from Australia had been hoping to see the State rooms all his life and that day afforded him the only opportunity for doing so, as he had to sail the next day for the Antipodes. But the rule was inexorable; the apartments were "closed for cleaning," and the journey of sixteen thousand miles ended by an outside view. The visitor bore his disappointment philosophically and did not fall into the vulgar error of abusing the porter. It was slightly different with an American visitor who was placed in the same predicament, and who with characteristic cuteness "guessed his house was cleaned every morning slick, and was always ready for visitors, and guessed if that house was in his country it would be ready too." It is well, therefore, that gardeners and others whose primary mission is to inspect the grounds and flowers should not deprive themselves of a rich supplementary treat by committing the same error of selecting Friday for a visit. Yet while visitors arrive from all countries, it is naturally the Londoners who are represented in the greatest numbers, the attendance last year numbering upwards of 200,000.

Although somewhat early in the season the flower beds are about in full beauty. The plants were good to begin with, were planted closely, and have grown freely: hence their present satisfactory condition. The aspect of the grounds from the west front of the palace is one of unmistakeable grandeur. The three splendid avenues of Elms converging to the centre of the terrace; the fountain in the centre in its basin 130 yards in circumference and its 120 jets; the smooth expanse of lawn with lines of venerable Yews and Hollies, some of them enshrouded in Ivy; and the large, numerous, and

excellently filled flower beds, produce a picture of art and nature balanced and blended in a manner that commands general admiration. The general view is admirable, and a closer inspection of the flower beds proves that they are admirable too. Flowers old and new are provided, and arrangements old and new are represented. It will be fashionable to look at the new flowers first, and these are

DR. DENNY'S GERANIUMS.—A considerable number of the new varieties of that celebrated raiser are bedded out, the plants having been supplied by Messrs. James Veitch & Sons. They are in round beds, but as the plants had been cut rather severely for cuttings they were not seen in their most favourable aspect. The following are the varieties represented:—

Cleopatra.—A distinct and novel colour (carmine magenta), and a remarkably fine and well-formed flower; a tolerably free bloomer, but not particularly effective from a distance; the habit of growth, too, is a little irregular. Better for pots than for beds.

Amazon.—A grand rich scarlet suffused with crimson; flowers large, of great smoothness and substance, and freely produced. A strong grower, and fine for large beds and for pots.

Heather Bell.—A distinct and lovely colour, bluish pink; flowers of the finest form and of great substance of petal. One of the best for pots, but not a good bedder.

Nyanza.—Scarlet, a rich glowing mass. A variety of great merit for pots, and promising as a bedder.

Atlanta.—A distinct and novel colour, purplish crimson; a fine flower, but the plant rather too strong in growth for ordinary bedding purposes.

Globosa Major.—Semi-nosegay, crimson, fine bold trusses, but growth of plant rather unlevel. Requires a large bed to show it to advantage.

The above have separate small beds, but the following are selected from several varieties planted in rows in a large bed:—*Gnome*, glowing scarlet, dwarf and free; one of the best of all for small beds. *Isis*, brilliant scarlet; a stronger grower, and would probably show to advantage in a large bed. *Zuleika*, a rich and distinct colour; finer for pots than for beds. *Irene*, purplish crimson, with a rich orange-rayed blotch on upper petals; it is dwarf and free, but forms seed pods too freely for a bedder; fine for pots. As seen at Hampton Court under disadvantageous circumstances, and possibly grown from spring-struck cuttings, the varieties, with one or two exceptions, do not afford evidence of being superior bedders. As an on-looker remarked, "They are too good for beds and must be grown in pots." They are generally too robust in habit, and do not possess sufficiently dark green foliage to render them effective for outdoor display.

Some other beds—large oblongs alternating with the circles—are extremely fine. The most pleasing are perhaps those where the central mass consists of two distinct colours. For instance, *Geranium Bijou* carpeted with *Viola Blue Perfection*, broadly banded with *Iresine Linden* and edged with *Golden Stellaria*, is a charming combination and worthy of imitation. *Viola The Tory* intermixed with variegated *Geraniums*, and the same *Viola* with *Centaurea candidissima*, produce a pleasing effect. Particularly attractive are the *Centaurea* and *Verbena venosa* in mixture, and *Abutilon Thompsonii* variegatum carpeted with blue *Violas*. *Pelargoniums Mrs. Pollock* and *Sophia Dumaresque* carpeted with blue *Lobelia* produce a cheerful and lively effect, and so also do other combinations of the same nature. This mode of planting the beds is admirably adapted for producing fine floral masses in early summer. The beds probably show to advantage on account of their size, many of them being 40 feet long and 12 wide. Several beds about 12 feet square are simply but effectively filled, such as *Geranium Amaranth*, which is splendid, edged with *Geranium Manglesii*, and the same *Geranium* banded with *Bijou* and blue *Violas*, and edged with *Iresine Linden* and *Königa variegata*; also *Ageratum Imperial Dwarf* broadly banded with *Geranium Manglesii*. A bed of *Geranium Happy Thought*, broadly banded with *Geranium Golden Harry Hiever*, is very novel and good. Many other beds are effective, but it is not necessary to particularise them. *Calceolaria Prince of Orange* is literally a "dead failure," for most of the plants are actually dead—the one failure in a fine flower garden. The best beds of scarlet *Geraniums* are those of *Vesuvius*, closely followed, however, by *George Natchett*. The best crimson is *Waltham Seedling*. By far the best pink is *Amaranth*, but a bed of *Mrs. Haliburton* is very promising. This variety is deeper in colour than *Christine* which it resembles in habit of growth.

Carpet bedding is also excellently represented, the designs

being of a free pleasing character, and planted with much taste. Cheerful colours and neutral tints are well balanced and the beds are decidedly good; a few of them perhaps have seldom been surpassed in this particular style of garden decoration.

Other features of Hampton Court merit attention: the old Dutch garden with its Yews and hardy flowers; the Agaves and Oranges on the terrace, probably centenarians (one of the Aloes will shortly be in flower), a wonderfully fine example of the *Wistaria sinensis*, and the grand old Vine, which is this year carrying 1200 bunches, small but very regular, the foliage being healthy and clean. All these are points worthy the inspection of the visitor, who when he has examined them will say that the gardens at Hampton Court are highly deserving of patronage, and that their condition reflects much credit on Mr. Graham, the Superintendent.

THE OLD MARKET GARDENS AND NURSERIES OF LONDON.—No. 21.

"BROMPTON," observes Mr. Brewer, writing concerning the place fifty years ago, "has lately experienced a considerable increase of buildings, and is now nominally divided into two parts, termed Old and New Brompton. The latter division of the hamlet chiefly consists of rows of houses, which are of a crowded but usually respectable character. Old Brompton still retains a similitude of rural aspect, and is yet celebrated for well cultivated nursery and garden grounds." Since the "Great Exhibition year" Brompton has undergone an "increase of buildings" which throws the Georgian increase into the shade, and if it has a "similitude of rural aspect," this has now become very shadowy indeed. The nurseries have undergone rapid diminution. The market gardens probably do not cover more than a third of the space they occupied at the beginning of this century. The outlying districts belonging to Fulham and Hammersmith may, however, give us some imperfect idea of what Brompton was in the olden time; now a part of it is called South Kensington, not without a tinge of absurdity, the name pretty nearly representing New Brompton, but not quite with exactness. A portion of Old Brompton was known formerly by the rather absurd name of "Little Chelsea," so that the past generation can hardly afford to laugh at the present one; it was along the line of the Fulham Road, just beyond Brompton Heath and Chelsea Park, but formed no part, as I understand, of Chelsea parish. The etymologists, it appears, have not exercised their ingenuity in discovering or inventing an explanation of the word "Brompton;" of course the final "ton" represents "town," as in many names of places. I would suggest it may have been designated from some owner of the land, or possibly it was originally "Broom town," from the Broom which once flourished in the open ground, such as Brompton Heath. And the by-passer along the Fulham Road may survey with interest the condition of a part of this heath (so-called) not yet built upon, but which was cleared for that purpose many years ago—it must be nearly twenty I think. Before that the land was in the hands of market gardeners. Though lines of road were traced out and cellars built matters went no farther from some cause, and now there grows a curious commingling of plants and shrubs on this neglected property, and amongst these may be noticed specimens of the Broom, the seeds of which had probably laid dormant in the earth.

An excuse for the application of the name "South Kensington" to northern districts of Brompton lies in the fact that these belong to the parish of St. Mary Abbott, Kensington; but though we commonly speak of the gardens of the Royal Horticultural Society as situate in Kensington, I fancy they might have been claimed for Brompton, certainly they occupy some of the land that belonged to the renowned Brompton Park Nursery; and, before speaking of that historic and extensive establishment, it should be noted that the Society (destined, I trust, to retain its Kensington property for a long time to come) before the Chiswick Gardens were planned had a small space at Kensington, on which experimental culture was carried on, chiefly in the open air it seems. This was commenced early in 1818, but closed in a few years; it was situate to the west of Earl's Court Road, not far from Edwades Square. It was only open to visitors from two o'clock to six.

A number of authors, in describing Brompton Park Nursery, have referred to this establishment as if it was solely entitled to the name of Brompton Park. Though the greater portion of the park was absorbed into the nursery at first (to undergo

various reductions as time went on) there was a residence Park House, near Prince's Gate, only removed in 1856, to which was attached a small section of the domain. In an ancient house on this estate was born Philip Percival in 1603, the friend of John Pym; and the Percivals owned Brompton Park till near the end of the reign of Charles II. Originally containing possibly 100 acres, it was divided, and the larger half, about 67 acres, was formed into a nursery garden in 1680 or 81 by a firm styling itself Lukar, Field, Cooke, & London. Lukar was gardener to the Queen Dowager at Somerset House in the Strand; Field held a similar situation with the Earl of Bedford at Bedford House, also in the Strand; Cooke was gardener to the Earl of Essex at Cashibury; and London* to Bishop Compton at Fulham. As the first establishment of any pretensions, if not actually the first London nursery, much interest centred in it, and it was frequently visited by gardeners as well as botanists. The two senior partners died about 1686, and in 1689 Cooke disposed of his share to Henry Wise, and the firm became London & Wise. Wise had chiefly to do with the laying-out of Hampton Court, and the partners were employed in the planting of Kensington Gardens. During the winter for some years it was usual to remove choice plants from Kensington Palace to their nursery. A literary fruit of their association was an English version of a French book, "The Complete Gardener," which Messrs. London & Wise published in 1701.

The learned and somewhat prosy author of "Sylvia," John Evelyn—who did, however, undoubtedly feel a genuine satisfaction in all that tended to promote the advancement of botanical science—displays unwonted enthusiasm in his description of Brompton Park Nursery. One sentence of his, in reference to a visit he made to the establishment, I must quote, as a curious specimen of intricate English. His style is very different from the curt expressive manner that another noted man of that day, Samuel Pepys, adopted in putting down his jottings. He observes:—"Of all I have hitherto seen, either at home or abroad, or found by reading many books published on the subject, pretending to speak of nurseries and plantations for store and variety, directions for the designing as they term it, the skilful making, plotting, laying-out, and disposing of a ground to the best advantage—in a word, for whatever were desirable for the furniture of such a ground with the most excellent and warrantable fruit, I say warrantable because it is peculiarly due to their honest industry and so rarely to be met with elsewhere, and other accessories to gardens of all denominations as in that vast ample collection which I have lately seen and well considered at Brompton Park." Then he proceeds still further to commend Messrs. London & Wise, who in reading their eulogium must surely have been amused at the confused sentence by which it was introduced; and he further adds that "they have a large and noble assembly of the flowering and other trees, perennial and variegated evergreens and shrubs fittest for our climate, and understand what best to plant the humbler bosage, wilderness, or taller groves with—for which purpose, and for walks or avenues, they have store of Elms, Limes, Platans, Constantinople Chestnuts, and Black Cherry trees!" Then in a bit of slang, which he had picked up in his studies of French books, Evelyn further praises these gardeners for their management of the "potagere, meloniere, and culinarie" domain. The fame of the nursery steadily increased, for Bowack, writing of it in 1705, remarks that the proprietors sent plants and trees to noblemen and gentlemen in every part of England. "It has been affirmed," says he, "that if the plants in it were valued at but 1*d.* a piece they would amount to above £40,000." As £1 contains 240 pennies the sum here stated would represent nearly ten millions of plants, evidencing the romantic character of the estimate. The plants, moreover, might well have been taken at a higher sum at a rough guess—say even 1*s.* each, excluding seedlings. Apart from such conjectures there is abundant evidence of the large business carried on by this establishment both in the eighteenth and in the first half of the nineteenth century. This was not confined to Britain, for many plants were sent to the Continent from Brompton Park; but as London grew other nurseries sprang up, and to some extent affected the older nursery, which was, owing to the number of persons it employed, not merely a plant nursery—it was also a training place for gardeners. An injurious influence was exercised upon some of the plants by the growth of the metropolis, but the land attached to the nursery did not undergo great diminu-

tion until after the reign of George III., for according to Faulkner, when he wrote in 1820, Brompton Park Nursery contained 56 acres, at which it remained at the period when this and adjacent properties were purchased by the Commissioners of the Exhibition of 1851.—C.

TREE-PLANTING IN WASHINGTON.

In the *American Agriculturist* Mr. Peter Henderson pays a merited tribute to the skill, taste, and judgment of Messrs. William Saunders of the Experimental Garden of the Department of Agriculture, William R. Smith of the Botanic Gardens, and John Saul, the nurseryman and florist, who compose the "Parking Commission," and whose work in planting the fine avenues and streets of the City of Washington with handsome and appropriate trees has produced, as he says, results that probably no other city can equal.

Already 40,000 trees have been planted, some thirty kinds being used, the bulk, however, being of ten kinds. These, named in the order they are valued by the Commission, are the following:—Silver or White Maple (*Acer dasycarpum*), then American Linden (*Tilia americana*), American Elm (*Ulmus americana*), Scarlet Maple (*Acer rubrum*), Box Elder (*Negundo aceroides*), Sugar Maple (*Acer saccharinum*), American White Ash (*Fraxinus americana*), English Sycamore (*Acer Pseudo-Platanus*), English Button Ball (*Platanus occidentalis*), Tulip Tree (*Liriodendron tulipifera*), Honey Locust (*Gleditsia triacanthos*), and Norway Maple (*Acer platanoides*).

These and the other sorts are set 20 to 25 feet apart, and there are miles and miles of streets in which not one dead or diseased tree can be seen, which shows that the planting must have been done in the best possible manner. The trees were transplanted as the first necessity; and the Commissioners, frequently receiving from distant parts trees which were not in a satisfactory condition as to their roots, planted them out in their own grounds one season before risking them in the streets.

The trees when planted averaged 1½ inch in diameter and 12 feet in height. The hole for the roots is dug about 5 feet across and 2 feet deep. When the natural soil is unsuitable good soil is brought from elsewhere. Every tree when planted is surrounded by a plain but substantial sparred tree guard 6 feet high, which serves the double purpose of protecting the tree from injury by cattle, &c., and of shading the stem from the sun—an important precaution, since trees grown in masses, either in nursery or forest, shade each other and suffer greatly when removed and exposed singly to the blazing sun. The great success in planting the avenues at Washington is no doubt due to the persistent use of this precaution, which is never omitted.

When this work, which has been going on for five years, is complete, one may then drive for two hundred miles through the broad and ample shaded avenues of the American capital, and imagine they are passing along the rides of a great park. —(*Journal of Forestry*.)

WORK FOR THE WEEK.

KITCHEN GARDEN.

Sow the principal crop of Tripoli Onions and Winter Spinach, sowing the latter in rows 15 inches to 18 inches apart, and about an inch deep. Cabbage for the main crop ought to be sown. Enfield Market, Hill's Dwarf Incomparable, Nonpareil Improved, Wheeler's Imperial, Heartwell Early Marrow, and Battersea or Fulham, are all excellent; for small gardens, or for taking up little space, Little Pixie and Atkins' Matchless are of superior quality, and may be planted a foot apart. Red Dutch is the best sort for pickling. A sowing of Lettuce should be made for winter or early spring use. The best sorts for this sowing are Early Paris Market for lifting into frames in autumn; Hicks's Hardy White and Brown or Black-seeded Bath Cos; Stanstead Park and Lee's Immense Hardy Green in Cabbage varieties. Make a last sowing of Turnips, White Stone or Six-weeks, Golden Ball, and Chirk Castle Black Stone, are all good keepers and of excellent quality. Continue sowing Radishes as required, and the sorts for winter use—viz., Black Spanish, China Rose, and Californian Mammoth; they must be afforded rich light soil and an open situation. Carrots sown at this time are often useful in spring. Select Early Nantes, which is excellent, and James's Intermediate Scarlet for this sowing; sowing the first in drills about 6 inches apart, and the last 10 inches, choosing a sheltered situation and soil of a friable nature, affording a liberal dressing of soot or wood ashes with a view to check wireworms and grubs.

Complete as soon as possible the planting of Broccoli and Greens of every description for spring use, also Cauliflower and

* A full account of the life of this remarkable man will be found in vol. xx., page 196.

Cape Broccoli for autumn or early winter supply. Early-sown Cabbage prick off so soon as the plants are large enough in order to keep them sturdy and to enable them to better withstand cold. Attend to earthing early Celery and to watering the later crops liberally. Plants may yet be planted for a late spring supply. The trenches need not be deep now, well-drained light soil being made choice of, and a sheltered situation. Incomparable (Sandringham) Dwarf White and Williams's Matchless Red are hardy and remain a long time fit for use. Any late plants required for using green after the blanched supply is exhausted may be planted in beds 4 feet wide, placing the plants 9 inches apart in rows a foot asunder crosswise of the beds.

If a very late crop of Peas be wanted seed should now be sown in a pit in rows 2 to 2 feet 6 inches apart, affording them from 10 to 12 inches depth of moderately rich light soil, and a distance from the glass for such kinds as Little Gem and Blue Peter of about 2 feet; but Unique, which is a fine Pea for this purpose, should have more head room, or eight or nine peas may be sown in 10-inch pots and then placed in a warm situation outdoors, removing them to a light airy house in October, or before frosts occur likely to injure them. A pit should be sown at once with French Beans for a late supply, and it must be heated so as to maintain a night temperature of 55°, and 65° by day when required, but the lights need not be employed until the weather becomes cold in September. Negro Long-podded is excellent for this sowing, also Osborn's Forcing.

HARDY FRUIT GARDEN.

Wasp nests are numerous and should be destroyed. We make a squib by moistening gunpowder with water, adding about a fourth of flowers of sulphur to the powder, and forming the mixture into a paste, wrapping it in brown paper, tying one end up, and drying so as to have the squibs in the right condition for burning slowly. After dark, the nest being marked during the day, one of the squibs is lighted and pushed well into the hole. A sod is placed over it and rammed down so as to confine the fumes, and about a minute after the squib is spent the nest is dug out and the grubs crushed with the back of the spade, filling up the hole, and the work is done. If the nest is suspended tie the squib on a stick, light and apply to the entrance, holding it there steadily. The fumes will kill every wasp, and all that is wanted further is to take down the nest and bury it. Most under gardeners like this sort of work; there is danger of being stung by stragglers, which makes the work enticing. The squibs require to be about half an inch in diameter and 3 inches long. It is an old system and better than many new notions for destroying wasps.

Mildew, owing to the dry weather, appears upon the fruit of Vines against walls, and should be met by dusting with flowers of sulphur. All laterals should be closely stopped or removed, as well as superfluous shoots, so as to admit light and air to the fruit, which should be gone over to see that there has been no neglect in thinning the berries, for they do not attain so good a size nor ripen so well as when they are thinned just sufficiently to prevent the berries wedging.

Plums on trained trees against walls are swelling off well. Keep the leading shoots closely nailed or tied-in, pinching back superfluous shoots to one or two leaves, and remove or stop forerights; if the shoots have not previously been stopped, stop them at the third leaf. Pyramid trees of Plums have cast most of the fruit. Rivers's Early Prolific is now ripe, and valuable it is on account of its earliness. Red spider is in many instances infesting fruit trees trained to walls, particularly the Peach and Nectarine, probably owing to the hot weather and the dryness of the borders. Give the roots a thorough watering, and when the trees are carrying a heavy crop afford them liquid manure to assist in swelling off the fruit and to help the plumping of the buds for future bearing. Syringe well in the evening, but not after the fruit commences ripening. Lay-in the young wood as it advances in growth, and secure the extensions by nailing or tying, keeping the shoots rather thin so as to secure the benefit of sun and air to ripen them. Any leaves overhanging the fruit may be shortened or drawn aside, but leave at least a portion of the leaf to mature the bud or buds at its base. In gathering the fruit of Apricots, Peaches, and Nectarines great care must be exercised, as the tender tissue is soon injured by pressure or the least fall, and when either occurs decay soon sets in, whereas if it is handled carefully and laid on padded shelves in a well-ventilated fruit room it will keep several days, manifestly improving the quality, as it is hardly possible to gather fruit from trees of sufficient ripeness for table without great risk of its receiving injury in handling.

A few bushes of Gooseberries should be closely netted to exclude small birds, and if need be wasps, by hexagon netting, which is far preferable to mats, which should never be used unless the after consequences are unimportant. Red Warrington is one of the best Gooseberries for late use; but some of the Lancashire kinds are good for this purpose, such as in Reds—Echo, Overall, and Top Sawyer; Whites—White Lion, Wandering Girl, and Tallyho; Greens—Thumper, Jolly Cutler, and Profit; Yellows—Husbandman, Teazer, and Viper: nor must Red and White Currants be neglected covering-up to preserve the fruit until a late

period. Morello Cherries must have thorough protection from birds, or hexagon netting if wasps are voracious. Continue to plant out Strawberries as the ground becomes vacant and the runners well rooted, which has been somewhat retarded by the late droughty weather. Those already planted and growing away freely will put out runners, which must be removed as they appear, and the ground kept free of weeds by hoeing as required.

FRUIT HOUSES.

Vines.—Muscats and Lady Downe's cannot stand the direct rays of the sun through large panes of glass; but there is this difference—Muscats must have plenty of light to put on the golden colour that denotes high finish, Lady Downe's finishing well under a canopy of foliage; indeed black Grapes colour in proportion to the ample foliage, and white Grapes appear to require more light and the shoots thinner. A night temperature of 70° should be maintained with a chink of air on at the upper part of the house, and very free ventilation by day until all danger from scalding is past; and when colouring commences (as it ought by this time if the late kinds are expected to keep fresh and plump through the winter) have fire heat to insure a minimum temperature of 70°, and maximum by sun of 85°, with moderate ventilation night and day in dull weather, proportionately increased in bright days. The roots must not be neglected for water; but if they have been too dry during the swelling period Vines carrying heavy crops will afford a plentiful harvest of shanked berries. See that the laterals are kept well stopped, and everything likely to contribute to good finish attended to promptly. Late Vines in some localities were badly ripened last year both in fruit and wood; and unless well attended to with water at the roots both inside and outside the house, and carefully fired through this season of successive dull weather and scorching days, may if kept close show indications of mildew, which should be met by painting the pipes with sulphur, putting on brisker fires, maintaining a rather higher temperature with liberal ventilation. Red spider must be kept under by similarly painting the pipes, but the temperature need not be raised nor freer ventilation be given for it. Let the border inside and outside have a good soaking with water at 90° if at all dry, for the roots will require to send up a supply of nutriment in quantity for some time yet, and a healthy growing state of the soil does not retard but assist in the perfecting of the crop, insuring well-swelled berries and high finish.

Peaches and Nectarines.—As the trees in the succession houses become freed of the fruit all the bearing wood of this season should be cut out unless forming part of the extensions, and the shoots where too thick should be thinned out to admit light and air to help to ripen the wood, afterwards giving the trees a thorough washing with the garden engine. See that the borders inside and outside do not want for water, especially in the case of late houses where the trees are now swelling off the fruit, such trees being assisted by liquid manure and mulching the surface with short manure. Continue the syringing morning and evening until the fruit is well advanced for ripening, admitting air freely, in fact full ventilation day and night except in the case of high winds and an unusual low temperature at night. Peach scale attacks the trees sometimes when the fruit is advanced for ripening or just afterwards. If prior to ripening, we do not advise any measures to be taken against it other than picking and sponging; but immediately the fruit is gathered syringe the trees thoroughly with paraffin a wineglassful to four gallons of water, mixing thoroughly with the water and keeping mixed by alternate squirts of the syringe into the watering pot and trees. If this be not done it is better left alone, as some parts of the trees will be smeared with paraffin purely and other parts with water only, doing more harm than good, whereas properly used it destroys the scale and does not in the least injure the trees. It is also effectual against thrips and red spider, indeed every kind of insect. In the earliest forced house some of the leaves will be beginning to change and drop off, in which case the lights if removed may be put on, but admitting all the ventilation practical, as if heavy rains set in some of the buds may start into growth, but by putting on the lights the inside borders will be kept drier.

PLANT HOUSES.

Greenhouse.—Young Fuchsias are every way better than old plants. Cuttings should now be taken of free-growing shoots (blooming shoots though they strike freely never make good plants), they strike freely in a cold frame kept close and moist, shaded from bright sun. When rooted pot off singly in small pots (3 or 4 inches), and keep them near the glass in a genial temperature, shifting them into 6-inch pots about six weeks afterwards. They do well in turfy loam, and a fifth part each of well-decayed manure and leaf soil and a sixth of sand. Any plants of these that flowered early will, if now cut-in slightly and thoroughly washed with a solution of soft soap, 2 ozs. to the gallon, to cleanse them from thrips and red spider, removing an inch or so of the surface soil, replacing with fresh and rich, placing them in a rather close house or pit and syringing freely, they will break freely and show flower plentifully, coming in towards the close of September, and with a temperature of about 50° from artificial means will continue for a long time if assisted with weak liquid manure. They are very valuable for cutting from.

Pelargoniums.—Early-flowered plants of the Show, Spotted, Regal, and Fancy kinds will be ready to be cut down, the soil being moderately dry, otherwise the roots will suffer. Old plants should be cut back to two or at most three eyes, young plants to three or four. Place them in a cold pit or frame, tilting the lights to admit plenty of air, and in fine weather they may remain off, but over the plants tilted during rain. In bright weather syringe lightly every afternoon, giving no more water than to keep moist. Zonals showing signs of exhaustion feed with liquid manure, and they will bloom until late in autumn.

Azaleas if placed out of doors must be stood upon a bed of ashes or other bottom impervious to worms, and the plants during heavy rains be placed on their sides, or, what is better, erect a wood framework over the plants to carry a roller and canvas covering to let down during very bright weather for two or three hours after placing outside for about a week, and during heavy rains, but do not allow it to remain over the plants longer than is absolutely necessary. The pots must be protected by canvas from the powerful rays of the sun, or they will be so heated as to destroy the roots.

Kalosanthes.—Cuttings may now be struck, taking cuttings of about 6 inches in length, stripping off the leaves one-third their length, and inserting singly in small pots in a cold frame fully exposed to sun, where they will soon root. *Vallota purpurea* should have a light airy situation, and manure water after the scapes appear and until the flowers expand.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

GLASTONBURY THORN.—"Ebba" wishes to know where he can obtain the Glastonbury Thorn and the green-flowered China Rose.

LABOUR REQUIRED FOR GARDEN (*An Irish Subscriber*).—Three men with a working gardener would be sufficient to keep what you name in good order and high cultivation.

GAS-HEATED BOILERS (*T. K.*).—We have heard that they are sufficient to exclude frost from small greenhouses.

PARSLEY COLOURED (*E. B.*).—We think the pink tinge ornamental, and should not try to remove it. The addition of a little manure to the soil and plentiful watering would soon restore the green colour.

FORCING AND INTERMEDIATE HOUSE (*S. S.*).—The cheapest and best description of house is a span or half-span, both of which are shown by sections at page 274, vol. vii., New Series. We should prefer the half-span with the ends east and west, front wall 3 feet high above ground, back wall 5 feet, height of house from floor to ridge 7 feet 6 inches, length of back light 5 feet, front lights 9 feet 6 inches long, lights for ventilation on the south side of the house 2 feet 6 inches wide, opening the whole length of the house by rod, crank, and lever apparatus. Pathway directly under the ridge 2 feet wide, affording a bed in front 5 feet 6 inches wide, and one at back a little over 2 feet wide. The forcing house should have two rows of 4-inch pipes beneath the front bed, and one at the back to afford bottom heat, surrounded by and covered with rubble to a depth of about 6 inches, and upon this 9 to 12 inches depth of plunging material. No bottom heat will be required in the intermediate house. Three rows of 4-inch pipes will be required for top heat in both houses—i.e., two along the front and one alongside the pathway, but as there is no saving in pinching for piping we should have four pipes in the forcing end, and three in the intermediate house. A fair proportion would be 16 feet length of forcing house, and 20 feet intermediate house, but all depends upon the requirements.

PEAS DISEASED (*O. A. Subscriber*).—The pods enclosed to us by you are infested with thrips, there being traces also of mildew. The remedy is to afford copious supplies of water in dry weather, pouring the water along the sides of the rows, and mulching with short manure. The pests may be destroyed by syringing the plants with a solution of soft soap, 2 ozs. to the gallon of water, after the Peas have slatted. Lining will improve the staple of the soil by liberating its pent-up organic substances, but it will not keep crops from the ravages of thrips.

PLANTING IVY UNDER TREES (*A Constant Reader*).—Ivy may be planted any time in mild weather from September to April inclusive, and all the year if the plants are from pots. We should plant in February or March, and sufficiently close so as to cover the ground quickly, pegging the shoots over the surface in all directions, and keeping the soil moist until the plants are established. Cuttings will not be likely to answer, as the soil will be too dry to ensure their speedy growth, but they may be inserted now in a shady border in rather poor light soil, where they will root freely if kept moist.

FRUIT TREES FOR SLOPING GROUND (*G. Holme*).—It is of primary importance in fruit culture that water does not lodge in the subsoil. If the ground be wet superfluous water must be carried off by drains placed 6 to 7 yards apart, and not less than 3 feet deep, having proper falls and outlets. With this and trenching the ground 2 feet deep we do not think you need fear forming a fruit garden with a variety of fruits. But you do not say whether you intend to form it into an orchard, keeping in grass or breaking-up the sward; but as you mention half-standards we presume it is to be kept in grass; therefore our answer to your queries, as tabulated, is—1, We should not plant Apples only. 2, Standards or half-standards trees should be planted 24 feet apart. 3, Plums, Pears, and Cherries would be likely to succeed, but Apples and Plums are most likely. 4, The failure of the Black Currant bushes is probably due to excessive moisture, probably a sour soil induced by stagnant water, or it may be poverty of soil. Destroy the old bushes and plant fresh ones in new ground of such kinds as Black Naples and Lee's Prolific. 5, Standard trees do not require any lifting, but root-pruning if they are growing too vigorously is occasionally necessary. 6, As to kinds of

Apples—Kitchen: Cox's Pomona, Bedfordshire Foundling, Dumelow's Seedling, Warner's King, Lord Suffield, and Northern Greening. Dessert: Dutch Mignonne, Sturmer Pippin, Blenheim Pippin, Irish Peach, Cox's Orange Pippin, and King of the Pippins. Plums: Early Prolific, Orleans, Diamond, Prince Englebert, Victoria, Wyedale, and Crittenden or Cluster Danson; those for culinary purposes. Dessert: Oullins Golden Gage, Green Gage, Jefferson, and Kirke's. Cherries: Downton, Empress Eugénie, May Duke, Bigarreau Napoleon, and Morello. Pears: Jargonelle, Williams's Bon Chrétien, Beurré de Capiaumont, Marie Louise, Beurré Diel, and Jules d'Airolles, with Catillac for stewing.

CULTURE OF FILBERTS (*C. A.*).—The Kentish Cobs raised from seed and now 4 feet high will bear heavy crops of nuts in due course, but you must be content to wait three or four years till the branches have become sufficiently large to yield fruit. When the leaves fall cut down the seedling plants to within a foot from the ground. Next spring young shoots will cluster thickly upon the stem. Rub all off but four or five of the strongest, and when these are a couple of feet in length nip off the tops of each to induce a lateral growth of side shoots, all of which except a couple of top shoots must be pruned to form spurs when the leaves fall, the two upper shoots being shortened slightly for a new lateral growth in the following season. The best form for each tree is that of a basin very wide and shallow. This form may be imparted to some sorts by judicious pruning, but most kinds require some slight training by pulling down the young branches and fastening them in the right position with string to pegs driven in the ground. Be sure and keep the centre of each tree open, or you will only have nuts upon the upper branches instead of right down to the bottom of the tree. We have tried several varieties of Nuts and Filberts, and find Kentish Cob the most robust and prolific of them all; not a summer passes without some nuts being had, and in most seasons we have a full crop.

GRAPES SCALDING IN LATE VINEY (*Idem*).—The best remedy is to afford full ventilation for a week or two till all risk of injury is past. Remove flat plants from the house, thin crowded growth, and see that there is not the slightest obstruction to a free circulation of air. Take care also that the roof ventilation is thorough. You will find fuller notes on scalding in another column.

CABBAGE LEAVES EATEN BY INSECTS (*Alexander Boyle*).—The Turnip fly (*Athalia spirarum*) eats the succulent green part of the leaves, and leaves the membrane of veins; but then it usually makes clean work, and as you say the mischief is done at night we are inclined to attribute it to some nocturnal weevil—which we cannot say out of the five hundred known British species of these destructive insects, and probably many more unknown.

RAISING CLEMATISES FROM SEED (*Amateur*).—If Clematis seed is sown early in the year and the pots plunged in gentle heat it germinates freely. If your seed had no heat and the pots were placed in a cold pit or frame the soil may have become sodden with moisture at some time and the seed has decayed. If it is still sound the seedlings will probably soon appear, and if so encourage the growth by keeping them in gentle heat after they are potted, so as to have them as strong as possible by winter, when the growth will very likely die. Place them then in a cool pit or greenhouse, keep the soil moist but not sodden, and in spring you will be rewarded by a strong vigorous shoot pushing up through the soil, and by attention to the necessary repotting and watering the plants will soon gain sufficient size to yield flowers.

SEEDS AND BULBS FROM SOUTH AFRICA (*Stirling*).—The bulbs will probably thrive in warm sheltered borders in the open air, but it will be well to pot most of them immediately, as spring time at the Cape is fast approaching, or rather may be said to have come. The *Aponogeton* and *Richardia* which we have established in the open air are both now in full activity, putting forth new foliage abundantly, and the seed of *Aponogeton* is germinating by hundreds. Pot the bulbs and place them in a cold pit, removing them to the greenhouse for winter; water them regularly after the blossom fades until the foliage is perfected, in order to impart full vigour to the new bulb; then gradually withhold water, and repot the bulbs after a period of a few weeks' rest. If you have plenty of duplicates by all means try some in open borders, protecting with ashes in winter. The seed should be sown now, and the seedlings be repotted from time to time and kept in full growth during winter in a greenhouse, or better still an intermediate house if you have one, but if you cannot afford space under glass it will be better not to sow till spring.

NAMES OF PLANTS (*W. J. B.*).—We cannot name plants in their leaves only. (*A Constant Subscriber*).—1, *Lysimachia vulgaris*; 2, *Lysimachia* sp.; 3, *Clerodendron*. (*W. H. P.*).—1, Clematis sp.; 2, *Sagina nodosa*; 3, Much too young to determine; 4, *Lomaria alpina*. (*Young Gardener*).—1, *Lysimachia vulgaris*; 2, *Geranium sanguineum*; 3, *Aster puniceus*; 4, *Aster lœvis*; 5, *Bupthalmum salicifolium*; 6, *Centaurea montana*, (*Tyro*).—3, *Oenothera biennis*; 4, *Hypericum perforatum*; 5, *Lopezia racemosa*; 6, *Hemianthus puniceus*.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

HARVESTING OF OATS.

It is often said that oats being an inferior grain compared with either wheat or barley, the harvesting of the crop is not of so much consequence, and that we need not be so particular as to the condition at harvest as for other crops. This idea used to prevail formerly much more than at the present time, as we have known parties carting oats to the rick when the straw was very damp and even when it rained; but the straw is now so valuable that we are, as it were, bound to have the straw in good condition, and thereby we save the grain in a valuable state. Although the oat crop may be inferior in comparison, yet in some of the northern and western counties, in the hill

districts and in exposed situations along the coast, it is the only grain crop grown, and this circumstance, together with the difficulties of harvesting on the elevated lands and backward climates, makes it desirable to select such varieties of oats as will not readily shed or whip-out by the wind. On the other hand, it is desirable to grow a forward sort of grain in order to its early harvesting in the most unfavourable districts. The winter-sown in the autumn will come earliest to harvest, and this sort, as well as the Potato Oat, the Hopetown, the Poland, and Black Siberian, each of these kinds is adapted in some respects for a backward climate. Still they are open-hawed, and in exposed situations it is very difficult to secure the crop without loss by shaking. Under these circumstances they should be cut very early and tied into sheaves. These are, however, sorts which recommend themselves to our notice by the fact that, being close and cluster-hawed, they will stand almost any amount of wind without loss of the grain. These are the Black and White Tartarian varieties, and they are capital croppers; but the white sort is rather late and not quite so well adapted for the northern climate. It is, however, invaluable for growth in elevated and exposed districts; for we have never known it shed the grain, and it has been lately very much improved as a pedigree oat by careful selection, and the grain is now much superior to what it used to be, and the straw of this sort is excellent food for cattle.

The oat crop is rarely ever cut soon enough, and it may be said as a rule, that when the straw is turned yellow the sooner the crop is cut the better both as regards the value of the grain and straw as fodder, because a portion of sap will then be in the straw, and when properly dried before harvesting contributes greatly to its feeding value. If the crop is allowed to stand until fully ripe of all the open-hulled sorts, such as the White Canadian, the Winter Oat, and the other sorts before named, they can scarcely be harvested without serious loss, even when cut and tied, for the grain will fall out greatly even in the act of cutting and tying. The Tartarian varieties, both Black and White, are now very much in favour even on the best lands and superior climates of the southern and eastern counties, for they will not only yield an abundant crop both of straw and grain, but they may be allowed to remain uncut for a considerable time if other more urgent work requires immediate attention. They will also when cut, tied, and stood up in shock, remain without serious injury in case of a showery or wet harvest. We have found the White sort in good condition after standing in shock for a month; but there is a point to be considered in all cases where the crop is sheaved and allowed to stand a considerable time in shock. It will perish the clover plants under the shocks; and as it is a common practice to sow clover in the oat crop this is an important consideration, and there is no way of saving the clover except by constantly, or every three or four days, removal of the shocks on to fresh ground.

The reaping machine and self-binder is as well adapted for cutting and tying the oat crop as for wheat. But in case of wire being used for binding the sheaves it will prove very difficult to deal with unless the wire is removed from the sheaves at the time of thrashing, which will prove not only expensive but cause delay. On the other hand, if the wire is passed through the thrashing machine with the straw it proves a serious evil, being mixed up with the straw when used for fodder, whether the straw is given to the cattle whole and loose, or whether it is cut into chaff; in fact, it cannot be cut into chaff without great difficulty, and if it could be accomplished there is still the liability of injury to cattle swallowing the small pieces of wire with the chaff. The tying of the fodder crops either of oats or barley with wire must be abandoned, and the sheaves tied by hand with straw bonds, until some further improvement and discovery is made as to binding materials. Tying with yarn has been attempted but has failed, and even if it had succeeded as a tying material it would be very objectionable to be cut up with straw as food for cattle. We have sometimes found that when the crops of oats are very abundant, that the straw will be much

laid and twisted. In that case it will be often advisable to resort to the use of the fagging hook for cutting, as the means of saving the most grain and straw, more particularly of the tender and delicate sorts of white oats. It is also desirable that the sheaves should not be tied very large, say from 14 to 15 inches through at the bond, for in case the sheaves get wet outside by rain, or tied-up when wet, they will not get dry so quickly as wheat. Oats have so much more leaf attached to the straw, and it entails so much labour and loss to untie the sheaves, that there is always more liability to heating in a rick of oats than of wheat, especially when the crop is seeded with clover. In this case the crop will be required to stand much longer in shock.

Cutting oats with the scythe and carting to rick as loose corn is still practised where the crop is light, and no doubt it becomes fit for the stack sooner, but in case of rain the turning of swathes and the changes from wet to sunny weather bleach the straw and seriously injure the fodder. Should, however, the weather prove fine, the loose crop soon becomes fit to harvest. In stacking the loose corn there is always more waste than when tied, and the rick of loose corn will require to be carefully thrashed with sticks on the outside, or some corn will be taken by small birds; whereas when the oats are tied the butts of the sheaves furnish an outside to the rick without loss. We also like the ricks made round, and if required to stand for a considerable time the ricks should be placed upon a stand, as rats and mice are both especially fond of oats.

WORK ON THE HOME FARM.

Horse Labour is now most important, particularly when it is a common practice to turn the horses out to grass during the first few days of the harvest month, and set the teamsmen to work in the harvest field. We, however, have always demurred to this plan, believing that the labour of horses is too valuable to be thus thrown away. We usually have ploughing and sowing turnips for them to do after peas, winter oats, early white oats, or wheat. In case we do not sow stubble turnips we always take care to keep the horses at work in fallow-ploughing or scarifying, whichever may be best, often between the shocks of corn, otherwise after the corn is cleared. We hold the working of horses continually to be sound practice, for it must be admitted by any person with experience that horses to be in good health and equal to their work when called on at all times should be fed well and worked with regularity. We must also bear in mind that horse labour upon the land is valuable in proportion as the weather is favourable and the land dry. Some horses, too, will be required in working the reaping and mowing machines, and this is severe work even for powerful and active animals. It is advisable, therefore, to have this work done by relays of horses, so that the reaping should be done without any hindrance; and by taking fresh horses every four hours the animals will not be overworked nor the reaping retarded. As soon as the stacking or housing of corn commences one of the horses will be required to work the gear of the elevator in making the ricks, whether of wheat or sheaved oats, or of loose corn, such as peas, oats, or barley.

When the cultivation of a farm is of a mixed character the horses are enabled in autumn to till all the land required for early root crops, such as potatoes, mangold, carrots, &c., without the aid of steam power. Upon this system of tillage we are nearly always busy with our horses without being subject to heavy pressure of horse labour, which often occurs upon farms tilled or sown upon the four-course rotation, and it often happens that extraordinary pressure takes place twice a year—viz., preparing for wheat out of lea and preparing for turnips after a winter fallow; whilst at other times of the year the horses are comparatively idle, or employed in some unimportant work. In many cases the question of supplementary animal power is a matter worth more consideration than it usually obtains, particularly since the introduction of steam culture, and which is not always available for the home farm, even by hiring. We allude to the working of oxen for tillage. We will not here, however, enlarge upon this matter, preferring at a future time to take up the subject for a special article. In securing corn we do not advocate its being housed in the barns, except such portions of the crop as may be required for thrashing immediately after harvest, because the damage by such vermin as rats and mice is often very serious when corn is kept in the barns during the winter months.

Hand Labour will now be required for tying the corn behind the reaping machine, at least upon those farms where the combined reaping and binding machine is not yet in use, and also hand labour will be required in assisting to stack the corn. In most cases, however, the elevator is now used on the home farm, and the labourers ought certainly to appreciate its use, taking off the men, as it does, the severest manual labour which they can be

called upon to do during the harvest. Women also should be encouraged to do work during the harvest month, for many of them have been accustomed to tie the corn reaped by their husbands. Some of them are, therefore, as capable of tying behind the reaper as the men, and this work should be let by the acre to men who have wives and families, which not only forwards the work but enables the people to earn good wages.

The management of pigs must not be overlooked, it being part of the work on the home farm to see that the swine of all ages are well cared for, so that not only the animals themselves may be in good health and condition, but that the breeding sows should be carefully attended and properly fed, in order that they may bring their young in due course, and both mother and offspring be maintained in good health. It, however, must not be forgotten that these animals are not very profitable in breeding and rearing if their dung and droppings are left out of the calculation. It is in consequence very desirable that the store pigs and also breeding sows should be fed daily in part with vegetable produce of the land, such as clover, vetches, rape, trifolium, Swedes, or turnips, whichever may be in season, with a small allowance of Indian corn or barley meal, and the animals accommodated with pens such as will be described on a future occasion.

HEDGES AND THEIR ENEMIES.

FENCES interest everyone who occupies a rood of land, and yet how rarely one sees a farm properly fenced! The expense of maintaining a bad fence is so onerous that it is worth while doing the work thoroughly well when the fence is first formed. The main thing requisite is to have the land clean and in good heart, so as to get the young plants well started. Plant in double rows in zigzag line, and cut them back within 4 inches of the ground in the third year. Never plant them on a raised bank, a very common practice, and have them pruned by a skilful workman with the sharpest of bills every year, aiming at a wedge shape, thus—A. Holly is the only powerful ally of the hawthorn; but unfortunately rabbits, the bane of the planter, are fonder of that beautiful shrub than almost of any other. And coming to the pests which destroy our best efforts when rearing a young fence, I ask your opinion of the specimen I forward of one which during the last three weeks has attacked a thriving young quickset fence which I had cut down last spring. Three weeks ago it was looking as well as possible, and when I again saw it yesterday I fancied that some urchins had been firing the grass and had scorched the fence (as one often sees along railway slopes portions of the fence scorched by fire ignited by sparks from the engine), the leaves and shoots being brown and crisp, with no sap whatever left in them. I could find no living grub on any of the portions that were quite brown, but on some shoots just beginning to change colour I found the minute orange-coloured maggots, some of which I forward, and which I presume to be the destroyers of my beautiful young fence. I hope that this scourge is not common in the country, for on a large scale it would be a most serious evil.

I have also found a wooded ravine, where oaks form the principal growth, overrun with caterpillar. My notice was first attracted by minute black specks on the light sandstone road, which for two miles looked as if black pepper had been strewn from a castor upon it. I soon discovered, however, that these specks were the excreta of countless multitudes of caterpillars, which since my previous visit had attacked the oaks. How disheartening these visitations are, and how inscrutable!

A check in the free circulation of the sap arising from inclement weather, and thus weakening the vitality of the tree, is nearly sure to be followed by an attack of this hateful pest. Should this occur in two successive years many trees will succumb under the attack. How does this devouring host suddenly acquire vitality by reason of the weakened condition of the tree growth?

The invasion of the quickset by the grub I have referred to occurred during the recent hot weather, so that the cases are not parallel, and I am utterly at sea with regard to the origin of both infestations.—W. LIPSCOMB, *Heath, Wakefield* (in *Journal of Forestry*).

FORTHCOMING POULTRY SHOWS.

WE have before us the schedules of several shows, which will be interesting, as likely to bring out many of the best early chickens of the year, and so to give us some idea of the quality of the year's produce. We have before commented on the Winchester schedule, the first show, we believe, of the season for chickens alone.

Bath, as usual, has a most attractive programme. We regret to hear that the former shows held there have resulted in considerable loss to the Committee, and that this show is a kind of test as to whether there is a real desire among fanciers for a continuation of the meetings. There are twenty-one cups and special prizes, besides two point cups. The poultry classes are forty-three, with three prizes in each of 80s., 10s., and 5s. Save in the case of Silkies, Bantams, and Ducks, which are shown in pairs, the classes are for single birds, chickens of the year. In these specially

excepted classes and the Selling classes birds of any age are admissible. Pigeons are for the first time at Bath shown singly, and have twenty-seven classes with prizes of 15s., 10s., and 5s. Cage birds have nineteen classes and Rabbits eleven. The Rev. Grenville Hodson is as usual Judge, but will this year have a colleague not yet appointed. The Show days are Sept. 4th and 5th.

The Central Bucks Agricultural Association will this year hold its meeting on September 11th at Wycombe Abbey, High Wycombe, in lieu of at Aylesbury. The poultry classes, twenty-eight in number, are for birds of any age, for the most part shown singly, with three prizes in each of 25s., 10s., and 5s. There are twelve cups, one of five guineas, the rest of three and two guineas. Pigeons have eight classes, with prizes of 10s. and 5s. and a two-guinea point cup. Canaries, three classes, with prizes of 15s., 7s. 6d., and 5s. Mr. Hewitt is appointed Judge.—C.

RABBIT COURTS.

As soon as the young Rabbits are large enough to be removed from the parent exercise will be found very necessary to keep them in good health. They may be kept in large hutches and occasionally put down to run. This gives some trouble, and does not always answer. What is most suitable under the circumstances is a place where they can constantly run about and gambol, and where they can keep dry and warm. A properly constructed Rabbit court will answer all these requirements and pay well. If the soil is dry and solid there will be every chance of success.

The best place for a Rabbit court is in a yard with a hard well-trodden-down bottom. The best part of the yard is a corner made by two houses, or, failing this, a house and a yard. These will greatly diminish the cost of making the court, and the building will keep off wind and cold. Regulate the size according to the number of Rabbits that are going to be kept in it. Suppose you are not going to put more than fifty young Rabbits in at a time, and that you will weed them off as they grow older, about 60 square feet will be plenty. Each wall should be at least 6 feet high, or the place will not be healthy. If the two sides already erected are very strong a single course of bricks may be sufficient for the extra ones; but if the thickness is only 4½ inches, a couple of buttresses double that thickness should be placed so as to act as a support for each wall. A roof should be added to keep off the wet—at any rate the worst of it. To effect this a lean-to of 2-inch boards will be found handy, and these should be screwed tightly together by means of cross pieces. They should be put up in hot weather when the wood is dry, and then the wood will swell with the wet and effectually keep out any rain. If put up in the winter the wood will shrink with the heat and leave crevices of as much as half an inch in the summer. The whole should be thickly tarred on the outside. If the wood is old and not likely to be quite watertight, it can be made equally effective by nailing along it a piece of felt and then having it well asphalted. New timber is the cheapest and most effective. The part against the wall may be 7 feet from the ground, and the other extremity only 6; but if the length is much the slope should be increased, the top to be 8 feet from the ground and the bottom still 6. There will then be a small space left open between the roof and the top of the walls. This may safely be left for light and ventilation, and to prevent the wet beating in the roof may be made to project a few inches. A door must be made in one of the sides. This cannot be made very easily, as it is necessary to make it strong or the whole side is likely to fall in. For economy's sake many make the doorway very low, so as to make creeping in almost necessary. This is very unsatisfactory. On the other hand, if the door is high, say about 5 feet, and a few inches more is an advantage, a dodge may be resorted to to prevent the Rabbits from running out when the door is opened. Two grooves may be fixed on either door-post and a plank slipped down, as is often done in country cottages to keep the children in. If it is not more than a foot high it will not be much trouble to step over, and it will prevent many a chase after a delinquent. A better plan is to make an entry in two doors, as is done in the case of aviaries, but this is very much trouble and will add to the expense. The floor should be carefully prepared. If the ground is gravelly or sandy and pretty hard the best floor will be an inch layer of cement and sand mixed up very wet, poured on, rubbed smooth, and left to dry. If the soil is at all damp, 2 or 3 inches of sand or gravel should be laid down and the cement on the top of it. In either case the result will be a floor of great hardness and durability. For the purpose of draining it should be allowed to slope a little towards one corner or side, and if possible connection should be made with some drain. In the centre of the floor a couple of bushels of soil quite dry and clean should be placed so that the Rabbits can sport on it and perhaps burrow a little. As it is liable to fall in and cause suffocation it is best not to pile it too high. Along one side of the court a trough something like a pig trough, but about a third the size, should be fixed. Wires should be fixed along the top to prevent the Rabbits from getting in. It should be made of metal, or if of wood a piece of wire should be fixed along the top so as to keep the Rabbits' teeth from destroying it. Especially during cold weather, and at all times, the little

Rabbits will require some place of warmth to go into at night. Along another side a place 2 feet wide, with a top to open on hinges, will be sufficient. Half a dozen holes should be cut in it to allow the Rabbits to run in and out. If wished two or three partitions can be placed on the outside, but they are not needed. They keep the place a little warmer. This must be kept well filled with straw; a little hay may be given, but as the Rabbits will eat this it should not be relied on for bedding.

Such a place as this will be very useful for young Rabbits in the summer and autumn, but it will be found cold in winter, when it may be used as a rabbitry for varieties not requiring heat.—G.T.A.

VARIETIES.

OWING to the heavy rains that have fallen harvest operations are suspended in some districts, and injury has been done to the grain by the extreme violence of the storms. With the storms a high temperature has generally prevailed; a continuance of those conditions can scarcely fail to promote the sprouting of grain and to accelerate the spread of the potato disease. The showers, except where they have been excessively heavy, have much benefited the root crops, which, and also weeds, are now growing rapidly.

— AT a large and influential meeting of the members of the Highland and Agricultural Society recently held in Edinburgh, his Grace the Duke of Buccleuch presiding, Mr. Fletcher Norton Menzies, the Secretary of the Society, was presented with a cheque for the handsome sum of £1225 19s. 2d. and a massive silver tankard as a mark of the high appreciation entertained by the members of the Society of his services as Secretary during the last twelve years, and of his successful exertions and devotion to duty in promoting the usefulness and interests of the Society. The subscriptions were limited to five guineas, and the list contained the names of 671 members, the total amount subscribed being £1320 11s., which, after purchasing the silver tankard and deducting all expenses, left the handsome balance of £1225 19s. 2d., for which a cheque was handed to him by the Duke of Buccleuch, who in making the presentation paid a merited tribute to the careful assiduity and managing ability of Mr. Menzies.

— WE hear that considerable interest in poultry has of late been aroused in South Germany. Some of the best specimens of Dark Dorkings in the Early Wood yards have lately gone to more than one fancier in the neighbourhood of Dresden.

— AT the Council Meeting of the Bath and West of England Society, held on the 30th ult. at the Grand Hotel, Bristol, the Chairman feelingly referred to the great loss sustained by the Society by the death of Mr. Charles Gordon, who for many years had rendered efficient service as Member of the Council and Steward of one of the principal departments of the Society's Exhibition; of Mr. Herbert Williams, who as Chairman of Finance, and in other prominent capacities, had served the Society with indefatigable zeal; and of Mr. Bremridge, whose munificent hospitality on the occasion of the Barnstaple meeting would be ever memorable in the history of the Society. The Finance Committee brought up their quarterly statement of accounts, and payments to the amount of £5719 0s. 8d. were sanctioned by the Council. It transpired that considerable loss had been incurred by the recent Oxford Meeting, and the Finance Committee were authorised, should they find it necessary, to sell out £1000 India bonds. The Committee appointed to visit Exeter and make arrangements for the Meeting of 1879 presented their report, and it was resolved that the site opposite the Barracks on the Topsham road be accepted, and power was given to the Committee to conclude arrangements with the local authorities. The Council having at a previous meeting received an invitation from the authorities of Southampton for the Society to hold its meeting in that important town in 1880, a further communication from the authorities of Southampton was now presented by the Hon. and Rev. J. T. Boscawen, and a deputation was appointed to visit Southampton on an early day to inspect the proposed site and make other arrangements preparatory to the next meeting of Council. On the motion of Colonel Luttrell the sum of £2070 was placed at the disposal of the Stock Prize Sheet Committee for the Exeter meeting; this amount, being £70 in excess of that offered at any previous meeting, having special reference to the claims of breeders of Channel Islands stock. Owing to the large amount of business to be transacted the consideration of the prizes to be offered for poultry and in other departments was deferred until the August meeting.

— SINCE we are so greatly indebted to America both for farinaceous and animal food, the following extracts referring to the future supply possess interest:—The present wheat crop will be grown on an area increased to make up more than the deficiency of the last. Its extent is not yet fully determined, but the increase will probably reach four million bushels, and the entire field will comprise not much less than 30,000,000 of acres. Nearly every winter-wheat State shows an enlargement of area, small in the eastern and middle, variable in the south, reaching 22 per cent.

in Texas and 18 in Tennessee. In the eastern half of the Ohio Valley (Michigan, Ohio, and Kentucky) the increase appears to be about 500,000 acres, and in Indiana and Illinois more than 700,000 acres. There will be an increase of nearly 400,000 acres in Kansas, and 300,000 or more in Missouri. In round numbers the increase in the spring-wheat States may be placed at 2,400,000 acres. In the four spring-wheat States of the north-west there is a large increase, as well as upon the Pacific coast, the extent of which is not yet determined, but it will be likely to approximate 1,500,000 acres. Of condition both of winter and spring wheat little need be said, except that it is fine, not to say extraordinary, with very few exceptions as drawbacks as yet in any part of the country. If the yield shall prove an average one the crop must be as large as that of the past year, equal to a liberal supply of home wants and export demand somewhat larger than the average. —(New York Tribune.)

— IT may be interesting to those poultry fanciers who have not received their Paris prize money in full, or who have received bronze medals in lieu of medals of a superior metal, to know that one of the English jurors has addressed a remonstrance on this (as he conceives) departure from the promises of the published schedule, to the authorities, and has been promised that the Minister of Agriculture and Commerce will have the matter inquired into at once. The English jurors on the conclusion of their labours in Paris were given to understand that gold medals would be given to them as little souvenirs of the great International Exhibition. They are now informed that this was purely an error on the part of the President of their section, as no such medals were ever cast or decreed to them!

— IN an interesting paper on dairy farming recently read by Professor Sheldon, it is stated that the enormously increased demand for fresh milk, coupled with facility of railway transit, is rapidly changing the character of dairy farming, and it is well for the dairy farmer that it should be so, for it is far more profitable and satisfactory in many ways that he should sell his milk as milk, and not convert it into cheese and butter—as much of it, that is, as he can arrange to sell in that manner. This system, however, is making us as a nation more and more dependant each successive year on foreign cheese and butter; and it is more than probable that we shall soon become almost wholly dependant on them for these most useful and valuable articles of food. Owing to the greatly increased consumption of milk the production of cheese and butter in this country is annually decreasing, and this is also the reason, the chief if not the only reason, why cheese factories have not gone on multiplying in number in the midland counties.

— AS showing the importance of sheep husbandry in various countries of the globe, the *Prairie Farmer* states that Great Britain has one sheep to each two acres of land; Germany, France, and Spain one to each five acres; the United States one to each fifty-six acres. There is no farm animal that with proper care will do more for a worn country than sheep. So well known is this that their tread has been called golden. It is so, inasmuch that while paying well for the care bestowed on them they are constantly enriching the soil on which they feed by their droppings. It has also been said that sheep pay twice—once in the fleece and once in carcase.

— THE American Minister for Agriculture has recently stated that in the extensive caverns of Texas enormous masses of guano are deposited. The quantity is estimated at 20,000 tons, and the quality is said to be superior to that of fish guano. Its origin must be looked for in the immense numbers of bats which inhabit these caverns. It is also reported that in the Indian Ocean several guano islands have been discovered, so that the threatened exhaustion of guano deposits need not be feared for some time to come.

BEEES IN BRITTANY.

WHILE recently travelling in Brittany we noticed as far as we could the local peculiarity of bee management. Hives were large, made of straw, shaped like our old-fashioned bellglass supers—i.e., narrowing at the base. As many as forty-nine were counted in one small field by the roadside, arranged in a double row, each upon its separate slab of stone laid flat upon the ground and covered with a sod of earth. In other places we saw the hives ranged one on the top of the other very close, with a bank behind them. The entrances were very large, shaped much like an egg when lying on its side, allowing free egress and ingress. About 20 lbs. of honey was stated as a very fair yield in good years. Brittany is generally a poor half-cultivated country, but it ought to yield at times an abundance of honey from the prevalent crops of buckwheat. If broom is a honey-yielding flower much ought to be gathered from it, as it too is found everywhere in great abundance. Like all hungry soils lying on a substratum of granite there is no lack of heather in places, which in fine seasons must also be productive. The present season appears to have been very similar in character hitherto to that experienced by ourselves. The people spoke of a wretched spring and a wet early summer, which was followed, as in England, by great heat and heavy

thunderstorms; accordingly we found swarming going on quite late in July—so too we found it in Jersey, nor did it seem to be thought an unusual circumstance.

Owing to the Bretons being rarely able to understand French, as they talk a language of their own akin to the Welsh and Gaelic tongues, it was difficult to get any more precise information from the peasant bee-keepers, who alone appeared to keep bees.—B. & W.

FERTILE WORKERS.

A BETTER illustration could not be found as to how the deeper mysteries of apiarian science are to the skeapist a sealed book, while to the bar-framer these are laid naked and bare for inspection, than in the case of fertile workers. Years ago in these pages while, the late Mr. Woodbury, the "REXFREWSHIRE BEE-KEEPER," and myself were discussing that interesting but by no means very rare phenomenon, Mr. Pettigrew in the columns of the "Scottish Gardener," treated the subject as follows:—

"Both ancient and modern writers on bees since the days of M. Huber have said a great deal about fertile workers. They tell us that some working bees lay eggs; they tell us how these fertile workers are produced, and describe their size and colour. I wish here to move an amendment, and to meet the statements of these writers on this point with a direct and positive contradiction. I fearlessly affirm that there never was and never will be a fertile working bee; and let me here cast the burden of proving their existence on the shoulders of those who write about them. If there should be one fertile worker in all England or Scotland this year I will here offer £10 to the owner if he will send her to me; and if he does not want to part with her I will give him £10 for the poor of his parish if he will send me a dozen of her eggs. And let me hope that these writers will hold their tongue about fertile workers till they honestly meet my challenge and offer and produce one of what they write about."

There at present stands in my apiary remains of a stock of black bees, now thirteen months old, which this season failed to raise a queen from Italian eggs supplied. A substitute—a fertile worker—as usual in such circumstances, took her place. She, her treatment by her unfertile sisters, her eggs, and Italian drone progeny hatched therefrom, are freely open to the inspection of all bee-keepers interested on the point at my apiary, Auchenaith, Blantyre, Lanarkshire, and it is my intention, should no accident befall in the interim, to exhibit the same in a small observatory at the Caledonian Apiarian and Entomological Society's Exhibition in connection with the Highland and Agricultural Society's Meeting at Dumfries on 30th July.—A LANARKSHIRE BEE-KEEPER.

HONEY HARVEST OBTAINED FROM STEWARTON HIVES.

JULY 29TH.—I have removed the supers from my two Stewarton colonies, and the results, if not equal to those I have formerly recorded, are I think, if the character of the season is taken into consideration, highly satisfactory. Up to the 21st of June I do not think that there was a single sealed cell of this year's honey in my apiary.

Only two stocks were storified; of these one has yielded 56 lbs. 12 ozs., the other 53 lbs. of pure virgin honeycomb. A third colony established last summer in a neighbour's garden has completely filled and sealed three supers containing fully 60 lbs. of beautiful honeycomb. In all these supers (ten in number) there is not a single cell which has been polluted by the presence of either brood or pollen.

As an experiment I have had a set of Stewarton boxes constructed of a larger size than usual. The stock boxes are 16 inches in diameter and 7 inches deep inside measure. The supers are of the same diameter, but only 4 inches deep. Three stock boxes make up the set. A swarm was introduced into one of these boxes on the 15th of June, a second box was shortly placed under the first, and a super was placed on the top. Both of the stock boxes are now fully occupied, and the super which was removed yesterday contained 17 lbs. 8 ozs. of beautifully white honeycomb.—J. E. BRISCOE, *Albrighton*.

OUR LETTER BOX.

SUPERS NOT FINISHED (*J. C.*).—In order to prevent your bees from swarming you put a super on the hive on the 6th of June, which was filled with combs in a few days, when a second super was placed beneath the first. In the course of a few days the second super was filled with bees and combs, when you put another beneath the first and second ones. These three supers you say are filled with combs, but not with honey. Your management has been good, only the season has been unfavourable for honey-gathering. If it had been a honey season you would doubtless have got three supers full and finished from one hive. If the bees were on Bagshot Moors they would soon finish the supers. If you do not take them to the heather we advise the removal of the supers. Probably you will find several pounds of honeycomb in the topmost super. If the combs in the others are white they could be preserved for use next year. If the stock hive weighs beyond 40 lbs. the bees could be driven and fed and its honey taken.

MAKING CAPONS (*S. Langdale*).—The operation of caponising is so cruel and unnecessary that we cannot recommend it. Fowls properly fattened will attain a sufficiently large size without being converted into capons.

DRIVING BEES (*Novice*).—Your bees may be driven from their hives by anybody who has courage enough to blow some smoke from fustian rags into their hives amongst them, turn the hives on the crowns (upside down) and place empty hives on them mouth to mouth, and roll tablecloths round the junctions to keep the bees in. When this is done commence at once to drum on the bottom hives with both hands, or two books, or two pieces of wood, and continue this work for fifteen or twenty minutes. This drumming disturbs the bees so much that they run up into the empty hives. If you will only try it in earnest you will be astonished at your success.

WEIGHT OF HIVES FOR WINTER (*Tom Towner*).—From September till March an 18-inch hive well filled with bees will require from 15 to 20 lbs. of food, either good honey or syrup. Less of course will do for a smaller hive. Forty thousand bees (8 lbs. weight of them) are population enough for an 18-inch hive in September, and thirty thousand will be a fair population for a 16-inch hive. The more numerous the population the more food is required, and if the weather in autumn and winter be mild the more food is consumed. The estimate of 15 or 20 lbs. of food includes nothing but honey or good syrup at the end of August when the stores have all been laid up. When bees are working or being fed they consume a great deal of honey. Bees are now eating a great deal of honey and gathering very little. Every bee-keeper should know the weight, or about the weight, of hives and boards before they are put to use.

DEPRIVING BEES OF THEIR HONEY (*Leicester*).—We can give you no directions as we do not know what hive they are in.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.				Rain.	
	Baromet. ter at 32° and Sea and Level.	Hygromet- er.	Direction of Wind.	Temp. of Air at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
					Max.	Min.	In sun.	On grass		
1878.										
July.										
August										
	Inches.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	In.	
We. 31	29.247	61.4	57.3	N.W.	63.2	72.9	54.7	114.6	50.0	—
Th. 1	29.320	69.7	56.3	N.	63.0	73.4	54.0	123.3	49.8	—
Fr. 2	29.010	57.7	57.5	N.W.	63.3	75.0	54.6	125.7	51.2	0.040
Sat. 3	29.708	67.2	60.0	N.W.	64.0	70.5	57.3	117.2	54.3	1.408
Sun. 4	29.743	63.5	58.8	S.	62.8	72.8	56.6	112.2	54.4	3.390
Mo. 5	29.880	65.6	61.6	S.E.	62.9	79.4	57.3	124.8	56.8	0.529
Tu. 6	29.729	67.8	64.2	S.E.	63.8	77.3	58.1	124.5	55.5	—
Means	29.962	63.8	59.7		63.3	74.8	56.7	120.3	53.1	2.567

REMARKS.

31st.—Fine morning, dull and oppressive from 11 A.M. till 2 P.M.; sunny afternoon; cloudless evening; bright starlight night.

1st.—Dull morning, followed by very fine weather rest of the day; cool breeze.

2nd.—Dull morning, slight drizzling rain, bright and sunny from 11 A.M. till 4 P.M.; cool breeze; cloudy from 4 till 6 P.M.; very fine evening.

3rd.—Fair morning, at 10.30 A.M. heavy rain with lightning and thunder; showery afternoon.

4th.—Thunderstorm at midnight with heavy rain, constant thunder from 1 to 3 P.M., and from 4.15 to 6.30 P.M. occasional showers; very heavy rain 6.33 P.M.

5th.—Rather damp morning, bright and sunny day, lightning from 8 P.M., heavy rain at intervals from 9 P.M. till 2 A.M.

6th.—Damp morning, warm and close; bright and sunny after 0.15, clouded over from 6 P.M.

All the means of maximum and minimum temperatures are about one degree above those of last week; but the dry-bulb temperature is nearly a degree lower. The barometer readings are rather higher than those of last week. Remarkably heavy rain on night of August 3rd-4th.—G. J. SIMONS.

COVENT GARDEN MARKET.—AUGUST 7.

OUR market does not recover its activity, as owing to the bank holiday and the recent heavy rains we have had very little to sell the last three days.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	½ sieve	2 0 to 4 0	Melons.....	each	4 0 to 10 0
Apricots.....	dozen	1 3 0	Nectarines....	dozen	4 0 12 0
Cherries.....	½ lb	0 6 1 0	Oranges.....	½ 100	8 0 16 0
Chestnuts.....	bushel	10 0 20 0	Peaches.....	dozen	2 0 12 0
Currants.....	½ sieve	3 6 4 0	Pears, kitchen..	dozen	0 0 0 0
Black.....	½ sieve	0 0 6 0	dessert.....	dozen	0 0 0 0
Figs.....	dozen	2 0 4 0	Pine Apples....	½ lb.	3 0 6 0
Filberts.....	½ lb.	0 0 0 0	Piums.....	½ sieve	3 6 5 0
Cobs.....	½ lb.	0 0 0 0	Raspberries....	½ lb.	0 0 0 0
Gooseberries..	dozen	0 0 0 0	Strawberries..	½ lb.	0 0 0 0
Grapes, hothouse	½ lb	1 0 6 0	Walnuts.....	bushel	5 0 8 0
Lemons.....	½ 100	6 0 10 0	ditto.....	½ 100	0 0 0 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes.....	dozen	2 0 to 4 0	Mushrooms....	pottle	1 6 to 2 0
Asparagus.....	bundle	0 0 0 0	Mustard & Cress	punnet	0 2 0 4
Beans, Kidney forced	½ lb	0 3 0 0	Onions.....	bushel	2 6 3 0
Beet, Red.....	dozen	1 6 3 0	pickling.....	quart	0 4 0 6
Broccoli.....	bundle	0 9 1 6	Parsley.... doz.	bunches	2 0 0 0
Brussels Sprouts	½ sieve	0 0 0 0	Parsnips.....	dozen	0 0 0 0
Cabbage.....	dozen	1 0 2 0	Peas.....	quart	0 9 1 0
Carrots.....	bunch	0 4 0 8	Potatoes.....	bushel	2 6 7 0
Capsicums.....	½ 100	1 2 0 0	Radishes, doz.	bunches	1 0 1 6
Calliflowers....	dozen	0 0 0 0	Radishes.....	bundle	0 6 0 9
Celery.....	bundle	1 6 2 0	Rhubarb.....	bundle	0 6 0 9
Coleworts, doz.	bunches	2 0 4 0	Salsify.....	bundle	0 9 1 0
Cucumbers....	each	4 1 0	Scorzoneria....	bundle	1 0 0 0
Endive.....	dozen	1 0 2 0	Seakale.....	basket	0 0 0 0
Fennel.....	bunch	0 3 0 0	Shallots.....	½ lb	0 3 0 4
Garlic.....	½ lb.	0 6 0 0	Spinach.....	bushel	2 6 0 0
Greens.....	bunch	0 2 0 0	Turnips.....	bunch	0 6 0 9
Leeks.....	bunch	0 2 0 4	Veg. Marrows..	each	0 2 0 4
Lettuce.....	dozen	1 0 2 0			

WEEKLY CALENDAR.

Day of Month	Day of Week	AUGUST 15-21, 1878.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.							
15	TH	Shrewsbury Show closes.	73.0	50.1	61.6	4 47	7 21	7 55	7 24	17	4 18	227
16	F		73.2	51.5	62.8	4 49	7 19	8 6	8 32	18	4 6	228
17	S		73.1	50.4	61.7	4 50	7 17	8 18	9 41	19	3 53	229
18	SUN	9 SUNDAY AFTER TRINITY.	73.3	51.6	62.5	4 52	7 16	8 32	10 51	20	3 40	230
19	M		70.3	51.6	62.3	4 53	7 14	8 50	0 a 3	21	3 27	231
20	TU	Royal Horticultural Society—Fruit and Floral Com.	72.5	50.8	62.6	4 55	7 12	9 14	1 15	22	3 13	232
21	W	Barton-on-Trent Show. [mittees at 11 A.M.]	72.4	49.7	61.0	4 57	7 9	9 47	2 27	23	2 58	233

From observations taken near London during forty-three years, the average day temperature of the week is 72.5°; and its night temperature 50.8°.

AUTUMN PROPAGATION OF BEDDING PLANTS.

WHEREVER there is much summer bedding required the autumn propagation of the plants for the following season always requires considerable attention at this time of the year.

Provided good cuttings can be had they should be inserted as soon after the beginning of August as possible, and the whole should be finished by the end of this month at the latest to give the young plants a fair chance of wintering well. In a good autumn many kinds of cuttings will root freely and establish themselves during September, but this cannot always be depended on. We generally begin our autumn propagation about the 12th of August, and finish it all by the end of the month. During September the cuttings form plenty of roots, and at the same time they are fully exposed to the sun and air to harden them so as to withstand the winter without injury.

Some people prefer lifting and keeping old plants throughout the winter to propagating young plants: especially is this the case with Geraniums, but half a dozen old plants are not worth two autumn-rooted cuttings the following spring, as the old plants are always scraggy and rough-looking; and although they bloom well for a time the following season I have found they do not bloom so long as healthy young growing plants. Unless it is some kind we are very scarce of we never keep an old bedding Geranium over the winter, but we propagate considerable quantities of young plants. We root and winter them all in boxes 2½ feet long, 14 inches wide, and 3 inches deep. About a dozen holes are bored in the bottom of each box, a crock is placed over each of them, a little rough mushroom dung is placed over the whole, and then the box is filled up nearly level with a mixture of loam, sand, and leaf soil, or mushroom dung in a half-decayed state. Fifty cuttings are placed in each of the boxes, and at this rate the space required to winter boxes containing two or three thousand cuttings is small indeed. As soon as the cuttings are inserted the boxes are watered and stood at once in the open air fully exposed to the sun. Here they remain until early winter rains or frost demand their removal under glass, then they are shifted into a cool house, such as a vinery with the fruit newly cut, and no artificial heat is applied to them unless it is actually necessary. When they are shifted it is on a dry day, when the leaves are quite dry, and during the winter they are watered without ever damping the leaves. Treated like this we do not lose one per cent. of them during the winter.

But to return. In taking off the cuttings care should be taken not to disfigure the plants any more than can be avoided. The cuttings must not be all taken from one spot, but select them here and there over the whole bed, so as just to thin out the tallest of the shoots. No Geranium should be much longer than 8 inches or shorter than 6 inches. Where Geraniums are growing thickly many growths that look as if they would make good cuttings will be found close to the base of the plants out of sight of the surface altogether. Some might be inclined to select these as cut-

tings, as in taking them they would never be missed or disfigure the bed; but these undergrowths do not make good rooting cuttings, as they are too tender. Hardy points are the kind of cuttings to which preference should always be given, and this not only applies to Geraniums but to all other plants. In making Geranium cuttings it serves no good purpose to leave a lot of leaves on the points, as they only decay before the cuttings are rooted, and very often cause the cuttings to decay. All the leaves should be taken off but two or three of the very youngest at the points. These will grow into large leaves and form the principal part of the plants during the winter. When Geranium cuttings have been in about a fortnight they should be gone over, and all the dead and decaying leaves taken from amongst them. This operation must be repeated again when necessary. In dry weather, when the plants are beginning to root, they must be liberally supplied with water.

We do not strike Verbenas in boxes, but they are put closely together in 6 and 8-inch pots amongst a mixture of leaf soil, a little loam, and plenty of silver sand. As soon as they are inserted the pots are placed in a cold frame, and until they are rooted little or no air is admitted. On hot afternoons they are syringed and on sunny days they are shaded, but this is only until they are rooted, and after that air and sun is admitted in abundance to harden them off for the winter. Iresines, Alternantheras, Coleuses, and everything of this kind are rooted in the same way, and the results are always satisfactory.

None of the last-named plants are propagated in large quantities at the present time, as a hundred plants in spring will give two or three thousand cuttings.

The variegated Alyssum is another most effective plant that has risen very high in our estimation this season which requires to be rooted like Verbenas.

It is time enough to put in cuttings of Calceolarias by the middle of September, and then they need only be dibbled thickly in a cold frame. Pansies and Violas should be done in the same way; and when they are covered over with glass while they are rooting it should be removed immediately they commence growing, and they do best when they are aired very freely during the winter.—A KITCHEN GARDENER.

HARDY PERENNIALS.

SIGNS are not wanting that hardy perennials are gaining favour, slowly it is true, but surely, and it is certain that when next they do get a firm hold of our hearts and gardens they will become a permanent feature. Let no one suppose that because they are hardy they require less attention than tender plants, for the very reverse is the case, and it is in a great measure this very demand for attention which endears them to the enthusiastic grower, as it forces him to know them better and to become more acquainted with their individual peculiarities. There are certainly many beautiful things among them which will take care of themselves, and such as will do so are perhaps seen to the best advantage when allowed to assume a semi-natural habit by the margin of shrubberies, lakes, or whatever position seems to suit them

best. In such cases one kind of plant should be allowed to predominate in one place, or the weaker-growing or less hardy kinds would be speedily overrun. It is not, however, semi-wild gardening, enticing as the subject is, that I wish to speak of at present, but herbaceous, or, more properly, perennial borders, and these when once established will always afford ample material for the semi-wild spots.

Those who contemplate growing hardy perennials should be taking notes and making preparation at the present time. Such books and catalogues as I have had access to are of very little assistance in this matter, as so many plants are always enumerated which are only of secondary quality; nor are botanical gardens any great help, for although many valuable plants may be found there, there is such a mass of botanical and other curiosities to wade through, and when we do find a plant among them worth growing for its beauty the chances are that we cannot find the name in any nurseryman's catalogue at all, although the identical plant may be in several nurseries under another name. The best plan I have found for picking-up the necessary information, is by looking through nurseries with competent guides where such things are made a speciality and are planted out to show their natural habits, the said guides only giving us the correct nomenclature, and allowing us to take our own notes and form our own opinion. It is of no use to see plants in small pots, for although it is necessary to have most of them so grown to ensure safe removal, we cannot then judge of their habit.

As a rule hardy perennials do not look well in beds. A border from 4 to 8 feet wide and backed with shrubs is the place for them. If the boundary lines are irregular so much the better, but it is quite possible to make them look well against straight lines, and even in close proximity to a formal garden, but not forming a part of it. The borders I have charge of are in such a position, and although the formal garden comes in for the first share of applause it is soon over. You can see it all in a minute, and then comes the turn for the mixed borders, and I can assure your readers that in the majority of cases the longer people examine collections of hardy plants lovingly cared for the better they like them. It is stipulated that I grow nothing which does not flower after June, so that probably the best half of the hardy plants are denied a home here; but that leaves ample material to form a very interesting collection, and it makes a much better display at the time it is required than could be made if plants were used which flower at all seasons. I should always advise planting this class of plants according to their season of flowering, dividing them at least into spring and autumn sections, the spring arrangement being placed where it need not be seen by ordinary visitors after its principal flowering season is over. Of course plant lovers, who invariably live a good deal on imagination, would enjoy it at any time, but we have to please the many.

A well-drained soil is of the greatest importance, and on the whole the staple ought to be light rather than heavy. Peat, where it can be had sufficiently cheap, is a great boon, as it does not harbour slugs, it does not readily become sour, and it lasts a long time without decaying. The greater part of the plants will flourish in peat alone, and for those which will not it is an easy matter to place other soil round them at planting time. Most of the plants, however, are very accommodating, and can be grown perfectly well without peat; but it is absolutely necessary to have the border rather light, and it is advisable to have it a little above the ordinary level, for many more plants die from damp and sour soil than are killed by frost. The best time for planting (a very few plants excepted) is October and the beginning of November, whether the plants are old established ones to be divided, or are bought from the nursery in pots, they then make a few roots before winter without growing visibly at the top. Many plants supposed to be rather tender will, if shifted at that time, bear the winter better than if left alone. The reason is they just receive a sufficient check to prevent them making late growth which they cannot mature. The strictly herbaceous plants—i.e., those which die back to the ground after flowering, if at all tender should not have their stems cut down till the spring; the dead flowers should merely be cut off the tops.

I am only a beginner with this class of plants. I think this is my fourth year, but I have already a beautiful selection; two-thirds of them have still to flower, and some new arrivals are not sufficiently strong to flower at all this season; nevertheless, the appended list, every plant of which was actually flowering on the 3rd of August, is a very interesting one, and

I challenge any person to find a single plant named therein which is not worth growing.

I cannot finish these notes without recording how much I owe to my dear departed old friend George Wheeler, who made this class of plants a speciality for the greater part of his life, carefully saving many a good thing which would otherwise have been lost to Europe. Would that he had lived to see the great objects of his attention again become popular; but he has done his work well, he has saved them for us, and there is now no immediate danger of losing them. He, however, leaves a great void; Warminster is not Warminster to gardeners without him. We could a short time back call in and chat, as it were, with a bygone age, and feel quite sure that everything he told us was as perfectly true as if we had seen it ourselves. Old age had not made him childish, and his memory was remarkable; he would name almost any old-fashioned plant at sight and tell some interesting tale about it into the bargain. Only a few months ago, too, he told me how he walked home from Bowood to Warminster for his Christmas dinner in 1813, remarking that it had been mild weather to that time, but that he had to go back through a deep snow, and that very severe weather followed.

Hardy perennials in flower August 3rd:—

<i>Achillea ageratoides</i>	<i>Lilium tigrinum</i>
<i>A. aurea</i>	<i>Linum flavum</i>
<i>A. Ptarmica plena</i>	<i>Lithospermum prostratum</i>
<i>A. Millefolium rosea</i>	<i>Lobelia syphilitica</i>
<i>Aconitum versicolor</i>	<i>L. cardinalis</i>
<i>Actinomeris helianthoides</i>	<i>Lychnis viscaria plena</i>
<i>Alströméria psittacina</i>	<i>Malva lateracea</i>
<i>Anchusa capensis</i>	<i>Mimulus moschatus Harrisoni</i>
<i>A. italica</i>	<i>Monarda didyma</i>
<i>Anemone Honorine Jobert</i>	<i>M. mollis</i>
<i>A. japonica hybrida</i>	<i>M. fistulosa</i>
<i>Armeria alpina grandiflora</i>	<i>M. purpurea</i>
<i>Asclepias incarnata</i>	<i>Nepeta cataracta</i>
<i>Aster rosmarinifolius</i>	<i>N. macrantha</i>
<i>Bocconia cordata</i>	<i>Oenothera Fraseri</i>
<i>Campanula alliariaefolia</i>	<i>O. riparia</i>
<i>C. carpatia</i>	<i>O. speciosa</i>
<i>C. celtidifolia</i>	<i>O. taraxacifolia</i>
<i>C. lactiflora</i>	<i>O. Youngi</i>
<i>C. Portenschlagiana</i>	<i>Oethionema saxatile</i>
<i>C. pulpa</i>	<i>Papaver nudicaule</i>
<i>C. pumila</i>	<i>Parnassia palustris</i>
<i>Centranthus angustifolius</i>	<i>Patrinia scabiosifolia</i>
<i>C. roseus</i>	<i>Pentstemon heterophylla</i>
<i>Centrocampa grandiflora</i>	<i>P. varius</i>
<i>Chelone Lyoni</i>	<i>Phlox in variety</i>
<i>Clematis integrifolia</i>	<i>Phyllis capensis</i>
<i>Coreopsis præcox</i>	<i>Platycodon grandiflora</i>
<i>C. lanceolata</i>	<i>P. grandiflora alba</i>
<i>Crucianella stylosa</i>	<i>Polygonum Brunoni</i>
<i>Cyananthus lobata</i>	<i>P. viviparum</i>
<i>Erodium manescavia</i>	<i>Potentilla Hopwoodiana</i>
<i>Eryngium alpinum</i>	<i>Pyrethrum in variety</i>
<i>E. Bourgati</i>	<i>Sanguisorba media</i>
<i>E. falcatum</i>	<i>Scutellaria macrantha</i>
<i>E. tricuspidatum</i>	<i>Scrophularia nodosa variegata</i>
<i>Funkia ovata</i>	<i>Solidago reflexa</i>
<i>Gaillardia Amblyodon</i>	<i>Spiraea filipendula plena</i>
<i>G. grandiflora</i>	<i>S. venusta</i>
<i>Geranium striatum</i>	<i>Statice latifolia</i>
<i>Geum coccineum</i>	<i>S. spatulata</i>
<i>G. coccineum plenum</i>	<i>Stevia mexicana</i>
<i>Helianthus multiflorus</i>	<i>Sylphium trifoliatum</i>
<i>Hieracium aurantiacum</i>	<i>Tradescantia virginica</i>
<i>Hypericum Androsæmum</i>	<i>Tritoma Uvaria glaucescens</i>
<i>Hypoxis villosa</i>	<i>Verbascum phoeniceum roseum</i>
<i>Liatris spicata</i>	<i>Verbena venosa</i>
<i>Lilium auratum</i>	<i>Veronica virginica</i>
<i>L. chalcedonicum</i>	<i>Viola in variety</i>
<i>L. superbum</i>	

—WILLIAM TAYLOR.

THE DUKE OF BUCCLEUCH GRAPE.

I AM sorry that I was unable to be at the last Committee meeting of the Royal Horticultural Society at South Kensington, for then I should have had the great pleasure of seeing the above noble Grape well done by. It is years since I first saw and tasted it at the Kelso Show, and I have never ceased to think well of it. I have four young Vines now planted; one has two small bunches which are ripening now, though the cane was only put in this year. My own opinion is that it will make a good outdoor wall Grape in the south, and I have given a friend of mine a plant to try it under these conditions. I find it does not like artificial heat. It was very well shown at both Tunbridge Wells and Tunbridge Flower Shows by Mr. Johnston of the Gardens at Bayham, the beautiful seat of the Marquis of Camden, where I had the pleasure of seeing the Vine in excellent growth. It has been planted three years; the rod is about 14 to 16 feet long, and there has been a crop of

thirteen large bunches, though there are but three left. I found the berries larger than any others in the same house, though Mr. Johnston's Muscats were very fine, as indeed were all the other sorts, and I have seldom seen houses in better trim. The flavour was delicious, though with no stones as far as I could find. I hoped to have tasted it again at lunch, to which some of the bunches were sent, but it appeared to be so much a favourite that I lost the chance, and I had some of the Auvergne Frontignan, which were excellent and rich though rather small. I am still of the same mind as regards the Duke, and that is that it is a noble fine-flavoured Grape and well worthy of a little trouble, and certainly of a trial. The Madresfield Court, I was told, cracks in the Bayham vineries, as also with other growers about here and also with me. If it does this year I shall graft another kind on it. My Muscat Champion and Venn's Muscat both continue to give me entire satisfaction.—HARRISON WEIR.

FRAGRANT ROSES.

ONCE Mr. Hinton asked for a return of fragrant Roses at the yearly election of Roses which he is good enough to take. He met with a poor response, Mr. Curtis, I believe, being the only person who gave any good return; but he certainly made up for the shortcomings of others by sending in a most elaborate return, classifying the various scents, and giving a really valuable essay upon Rose fragrance. I do not pretend for one moment to be able to do this, but I have lately taken a great deal of trouble and spent many days at the nursery of Mr. Walters at Exeter in investigating the fragrance of the leading varieties of Roses. I had a double object in doing this. I was anxious not only to send you a report, but for my own private reasons I wished to find out the most fragrant Roses. I have a friend and neighbour who is blind, and throughout the Rose season I try to send her the most lovely Roses I can find, but above all others the most fragrant.

I went four mornings and four evenings to the nursery I have named, and went carefully through the lines on each occasion and noted down my opinions, which are given to your readers for what they are worth. Perhaps some may not agree with me in some cases, and others may supplement the list. I had not the opportunity of investigating many of the newer varieties, as my friend prefers to know something about a new Rose before he buys it.

Of all Roses I unhesitatingly place La France first as the most fragrant Rose in existence. There is something also quite distinct about this Rose which makes it particularly agreeable. I have lately had to visit a little girl who has been ill for a quarter of a year, and each time I have taken her a basket of Roses. She would take out the blooms one by one and inhale their perfumes, but she never made any remark, except about their beauty, till she came to La France, when on each occasion she said, "How sweet!" Charles Lefebvre comes next in sweetness, and Madame Victor Verdier is equally good. Abel Grand has quite another kind of fragrance which is particularly grateful. Marie Baumann, besides being one of the most beautiful, is also one of the sweetest Roses. Lord Macaulay also is a very fragrant Rose, and Duke of Wellington and Xavier Olibo. Dr. Andry also can claim to be a good all-rounder, having form, colour, healthy growth, and fragrance. The Victor Verdier race are deficient in fragrance. To this family belong Comtesse d'Oxford, Président Thiers, Eugénie Verdier, Marie Finger, and Hippolyte Jamain. Of the very dark Roses Pierre Notting is exceedingly fragrant; and Auguste Neumann, Camille de Rohan, Louis Van Houtte, and Reynolds Hole are all very good in this respect. It is a little difficult to go on through the catalogue and name all the most fragrant, but I am confident that those I have named, besides being the *crème de la crème* of Roses, are also most fragrant. Of the light Roses Madame Knorr is very sweet.

We now come to Teas and Noisettes, and of this lovely family it will be hard to select any which are not fragrant. The most fragrant of all in my opinion is one which I am very fond of—Madame Bravy or Madame Sertot. Some people think this is the same Rose as Alba Rosea, or as Mr. Mitchell of Pittdown has it, Joséphine Malton, but they are, though near relatives, quite distinct. Madame Bravy curls her locks to the very crown of her lovely head, Alba Rosea is content with merely curling the lower part of her head; but both are of equal excellence when fragrance is concerned. Next to this I place another of my favourites, Catherine Mermet. Her fragrance partakes somewhat of ripe fruit, such as Apples, but

hers is a most distinct perfume. Then next for fragrance is the old favourite climber Lamarque. This has a pure lemon scent, quite distinct from all others. The pure Tea scent I should give to Maréchal Niel and Souvenir d'un Ami. Gloire de Dijon also possesses this fragrance, and her numerous family possess the same distinguishing mark. Cloth of Gold is also fragrant, and Solfaterre and Devoniensis are both good in this respect. I could go on through the whole family and find something to say of their fragrance, but your space will not admit of more on this subject just at the present.

Before concluding I wish to notice one thing. I was quite startled with the beauty of two of Mr. George Paul's children, I mean Roses—viz., Reynolds Hole and Sultan of Zanzibar. The former, of course, is well known, but I doubt if it has ever been so fine as this season. I went again and again to see blooms of this Rose at Mount Radford. Sultan of Zanzibar is a very great acquisition. It is an immense gain to the velvety dark varieties. It appears to be a very good grower on the maiden and also on the cut-backs, and it is infinitely superior to either Prince Camille de Rohan or Louis Van Houtte, taking the average of blooms from these varieties.

One or two of Mr. Charles Turner's seedlings have much pleased me, particularly Penelope Mayo. Emily Laxton, another seedling sent out by the Cheshunt firm, is also a very good Rose. It is rather like Monsieur Noman, but with greater strength to endure wet, and a later bloomer.

Of comparatively new French Roses I was highly delighted with Souvenir de Louis Van Houtte, which is quite as dark as his namesake, and large and of good form. Duchesse de Chartres is also a fine dark Rose, but a little wanting in substance, the form somewhat like Prince Camille de Rohan when in bud. I formed a very good opinion of Earl of Beaconsfield, which was raised by Captain Christy, and is to be sent out by Mr. George Paul. Of the French Roses of this year I know nothing personally, but am assured by very good judges that there is nothing worthy of notice; but of course it is early to judge of them yet.

The more I live the more am I convinced that the prizes come from English and not from French growers. Hardly a year elapses but Mr. Turner and both the Waltham Cross and Cheshunt firms give us Roses which are not only good at the time sent out, but also improve on acquaintance. And in this matter, as in all others, I cannot but echo the remark of the British tar who, when listening to a fervid description of the delights of another world, replied, "It is all very well, sir, but old England for me."—WYLD SAVAGE.

THE FRUIT CROP.

NEVER was the uncertainty of our climate more strongly exemplified than during the present year. From all parts of the country glowing reports of the prospects of a heavy fruit crop came to hand. We, however, were congratulating ourselves too soon it proved, as soon after the next thing to be heard was the mysterious wholesale and very general disappearance of the young fruit. Various reasons, according to local circumstances, are given as to the cause of this disappearance. The solution offered by Mr. Thomson (page 465) does not, I think, fully meet the case, although no doubt in his case materially contributing towards the failure—viz., as being another striking illustration of the importance of well-ripened wood in autumn. "AMATEUR" is, I think, much nearer the true solution when he says (page 449), "The cause of failure was the continued rains, the sodden state of the soil, and the absence of sun." This is fully corroborated from what I have seen and heard both in this county (Essex) and Shropshire, two counties widely dissimilar yet in one respect analogous. Both with few exceptions have a moderate rainfall, this part of Essex in particular. In both instances well-ripened growth of the best description, calculated to produce an abundance of healthy well-formed bloom, was made. This with a few exceptions was the case, and we and others were justified in anticipating an abundant crop, more especially as there had been light crops the two preceding years. In Shropshire on the whole they have, and have had, a fair average crop, the only exception apparently being Apples. This is not the case, however, in this neighbourhood, as in the orchards the common varieties of Plums only are bearing heavy crops. This difference I ascribe to the totally different character of the country and nature of soil. Both counties experienced similar dull, wet, and cold weather after blooming time; we, unfortunately being in a very flat district, the soil rich and

heavy resting on a cold and imperfectly drained subsoil in every respect different to Shropshire, got much the worst of it. The more elevated the garden the better the crops this season, and this, of course, tends to prove "AMATEUR'S" theory the correct one. For the sake of comparison and the benefit of intending planters I append a list of the most prolific varieties of fruit personally obtained in both counties and also communicated by friends, taking Shropshire first.

Apples are below the average; the varieties bearing heavy crops are Keswick and Manks Codlins, Early Hawthornden, Besspool, Cox's Pomona, Sturmer Pippin, Scarlet Nonpareil, Wyken Pippin, Golden Noble, and Northern Greening. The following are carrying average crops—Ladyton Codlin, Lord Suffield, Court-pendu-Plat, Golden Reinette, Orange Pearmain, Nectarine Apple, Fearn's Pippin, Dumelow's Seedling, and Bedfordshire Foundling.

Pears both on walls and as standards are a fair average crop. Pyramids on the Quince stock are also bearing well; those on the Pear stock, on the other hand, are carrying very small crops, and the fruit apparently of a very inferior description. The following are the most prolific both on walls and in the open—Williams' Bon Chrétien, Louise Bonne of Jersey, Glou Morceau, Joséphine de Malines, Easter Beurré, Beurré d'Amanlis, Brown Beurré, Beurré de Capiaumont, Beurré Rance, Ne Plus Meuris, Winter Nelis, Seckle, Marie Louise, Chaumontel, Uvedale's St. Germain, and Beurré Diel.

Plums are bearing a heavy crop, especially the following—Angelina Burdett, Coe's Golden Drop, Diamond, Green Gage, Transparent Gage, Reine Claude de Bavay, Orleans, Jefferson, Ickworth Impératrice, Washington, Magnum Bonum red and white, Prince Englebert, Victoria, Kirke's, and Pond's Seedling. Damsons are a very heavy crop, and the trees are as plentiful in the hedgerows and small gardens as Apple trees are in Herefordshire. The fruit is usually bought up and sent to Manchester and is there used in the manufacture of a dye. There is also a fair crop of bullaces.

Peaches gave promise of being a heavy crop, but many fruits dropped. The trees, however, are still bearing a fair average crop. The Noblesse, Royal George, and a variety known as Neal's Purple are the best. I have seen this variety doing well in two different gardens, where it is considered the best variety grown, as it is very robust and fruitful and the quality excellent. Nectarines are also a fair crop, Elruge and Violette Hâtive being the best. Apricots are an average crop, Hemskirk and Moor Park carrying good crops of nice clean fruit.

Gooseberries where protected from the bullfinches bore well, also Red and Black Currants, especially the latter.

Raspberries were very prolific and Strawberries remarkably so, some old growers being of the opinion that they had never previously seen such heavy crops of fine well-flavoured fruit. All the following varieties were grown—Keens' Seedling, Sir J. Paxton, President, Sir C. Napier, Dr. Hogg, British Queen, and Elton Pine. Figs are plentiful, and also Filberts. Walnuts are below the average. Cherries of all sorts were very fruitful, the Morellos remarkably so.

In this neighbourhood the Cherry orchards at blooming time were a sheet of bloom, but the old trees produced so little fruit that it was found inadvisable to go to the expense of keeping the birds off. Bigarreus, Elton, and Morellos on the walls, and Flemish, Kentish, and Morello as standards, bore very fair crops, especially the latter. Apples generally are a very poor crop, the few exceptions being New Hawthornden, Keswick and Manks Codlins. Lord Suffield, Dumelow's Seedling, Blenheim Orange, Golden Reinette, Old Nonpareil, Northern Greening, Scarlet Pearmain, Golden Noble, Norfolk Beefing, Devonshire Quarrenden, and Winter Codlin. Pears also are rather scarce, especially on the walls. Williams' Bon Chrétien, Duchesse d'Angoulême, Ne Plus Meuris, Beurré Diel, Beurré de Capiaumont, Beurré d'Amanlis, Bishop's Thumb, Winter Crasanne, Marie Louise, Swan's Egg, Vicar of Winkfield, and Bergamot Esperen are carrying fair crops, especially the first mentioned. Peaches are bearing a very good crop, notably Royal George, Padley's Seedling, Grosse Mignonne, and Bellegarde. The same remark applies to the Elruge, Hunt's Tawny, and Violette Hâtive Nectarines. Plums on the whole are carrying a very light crop, the exceptions being the Orleans, Mitchellson's, Pond's Seedling, Prince of Wales, Green and Transparent Gages, Magnum Bonum white, Early Prolific, Coe's Golden Drop, and Victoria. Some trees of the latter variety are carrying very heavy crops, one grower thinning out and sending to a merchant for bottling one ton of fruit. A very

remunerative price was obtained, and the value of the crop will be enhanced by the judicious thinning. Damsons are rather scarce, and also the Winesours. Gooseberries were a complete failure. This was caused by the frosts experienced after the fruit was set. Black Currants bore a very heavy crop, the Red a very moderate one. The same remark applies to Raspberries, the dry weather during June and July being very much against them. The Strawberry crop—and there are many acres devoted to them in this locality—was much below the average. The quantity and quality of bloom was good, but the wet dull weather was very injurious to the early varieties, and the extremely dry and hot weather experienced later on was equally bad for the late ones. Quinces are rather scarce, and have been for three consecutive seasons. Filberts are fairly prolific, especially where the precaution had been taken of shaking branches of the common Hazel bearing catkins among them at blooming time. Figs and Walnuts are bearing a thin crop, and the Mulberries are lighter crops than usual. Blight of every description seems very prevalent on nearly all kinds of fruit trees this season, Plums and Apples suffering the most.

The American blight, hitherto almost unknown, is very bad in this district; but the late thunderstorms have greatly improved the appearance of the trees, cleaning by hand being out of the question. Birds, too, seem to be unusually destructive, fruit of all descriptions being attacked before it is half ripe. The small birds are the most troublesome.—W. IGGULDEN, *Orsett Hall*.

SHOW PELARGONIUMS.—No. 1.

FOR a few years after Zonal varieties increased so rapidly, and when so many superior sorts were distributed, Show Pelargoniums appeared to be in some measure neglected. Flowers, however, so beautiful as these are could not long remain in any sort of obscurity, and more attention is now being devoted to them than was the case a few years ago. This section of Pelargoniums cannot with any justice and fairness be placed in comparison with Zonals. The two types are so thoroughly distinct that the merits of each must be judged separately. Zonals are valuable for their continuous-blooming properties, their fine trusses, varied colours, and easiness of culture. Show varieties, on the contrary, have a limited season of beauty, somewhat short it may be, yet long enough, and for the time incomparable. Their bold yet refined flowers, with their unique colours arranged in the most correct and artistic manner, are simply unapproached by flowers of any other section of this great and important genus of plants. The Show varieties, too, are of easy culture, yet require more care in their general treatment than do the Zonals. The latter if neglected occasionally do not show the effects of it so markedly as the former; but then, on the other hand, the Show varieties give a splendid return for any special attention that is accorded to them, and always when well grown reflect credit on the cultivator.

These beautiful flowers are alluded to now because the present time is about the best period of the year for purchasing plants. A much better plant of established varieties can usually be obtained at this season for the money than is disposable in early spring. In the spring young plants only can be expected that will produce at the most only a truss or two of bloom the same season; but a stout plant obtained now will, if well grown, make a decided display the first time it flowers with its new owner. Plants sent from a nursery now will not have an attractive appearance. If they have not been cut down they will resemble a bundle of semi-dried sticks, while if they have been pruned they consist of so many leafless stumps. They will, however, not long remain in this state, but will improve daily. Those who prefer having plants in free growth and thoroughly established after being cut down will defer their purchases until September or October; indeed, it is better to do so than to order plants when they are just breaking into growth, as in this state they are susceptible of injury during transit. Still, nurseriesmen are admirable packers, and generally ensure the safe and sound arrival of their consignments.

If the plants arrive with their summer growth intact they must be cut down at once quite closely, leaving only an eye or two of the wood made during the current season of growth. If they are already cut down they must remain for a time in the soil and pots in which they arrive, being watered moderately until they have made fresh growth from half an inch to an inch in length, this growth being made in the open air.

The plants must then be shaken out of the pots, most or all of the old soil being removed, and the fibrous roots, which will be "dead or dying," be cut off with a sharp knife, the plants being potted in smaller pots than before, placed in a frame, watered, kept close for a week, and slightly shaded if need be, and new roots will speedily be emitted, and the plants will commence growing vigorously, and will more than make up for the little lost time incurred by the slight check attendant on the cutting-down and disrooting process.

A short time ago a correspondent questioned the soundness of what he termed the desiccating and disrooting practice; he had tried the system and lost many plants. No doubt the practice of drying the growths of *Pelargoniums* can be carried to extremes, and the work of cutting down and repotting can be wrongly conducted; and it is certain that there is something wrong in the treatment and manipulation given if many of the plants die under the operation. On a moderate calculation the writer has assisted in cutting down and potting quite a hundred plants a year for the past thirty years, and certainly not one per cent. of the plants so treated has failed to flourish satisfactorily, notwithstanding that the disrooting was done in a very thorough manner.

There is a difference between maturing the growths of *Pelargoniums* and desiccating the plants. If a plant immediately it has ceased flowering is placed outdoors in the full sun, and water is suddenly and entirely withheld, and the foliage is permitted to be burnt up and shrivelled in a week, while at the same time the flower trusses are allowed to remain and seed form, as it will do under such circumstances, the growth of that plant is indeed desiccated but not matured, and we have no right to expect it to prosper. But if, on the other hand, the flower trusses are removed as the flowers fade, insects are kept from infesting the foliage, water is intelligently given in graduated supplies so as to sustain the foliage fresh for a reasonable time, yet to permit its gradual change to its early advancing autumn rest, the stems will store up abundant nutriment for the nurture of the forthcoming new growths until such time that fresh roots are formed to appropriate the fresh food supply given in potting to carry on the plant to maturity.

Now to disrooting. That has also been questioned. Disrooting as recommended under the above circumstances is an absolute gain to the plants—first, because the new roots issuing are far more vigorous than the old fibres; and secondly, because the restricting of the roots in bulk affords space for storing a much greater amount of food for the plant than would otherwise be the case unless pots of unwieldy size were employed, and in which the plants, while they might grow freely, would not grow compactly nor flower profusely. Thus ripening of the wood of the plants, cutting them down and greatly disrooting them, are necessities of culture, but those operations must be intelligently performed. The cutting-down and potting must not be done simultaneously, for the old roots are necessary to give a start to the new growth, and then new roots are equally necessary to sustain it.

All plants of Show *Pelargoniums* that have been cut down and have made some fresh growth should be disrooted freely and be repotted in clean well-drained pots. It is often well to wash the roots clean, and while wet to dash them with silver sand when the plants are being potted; new roots are then emitted from the old speedily, and the plants grow freely and healthily.—A NORTHERN GARDENER.

ODONTOGLOSSUM LINDENI.

IN your notice of the exhibits at the Royal Horticultural Society's meeting on the 6th inst. you allude to *Odontoglossum Lindenii* being exhibited by Mr. Buchanan, your reporter having incorrectly copied my name.

As to my gardener belongs the credit of having first flowered this plant in England, I will, for the information of your readers who may have a similar plant in their collections, state it was purchased by me about six years ago at Messrs. Stevens', and was kept in a temperature the same as *Cattleyas* and *Vandas* for about four years. Finding it did not flower, I had it placed two years ago with the *Oncidiums* and *Odontoglossums* and subjected to a very low temperature, my house not exceeding 55° all last winter, and since the early part of May no fire heat whatever has been used. I think this proves *O. Lindenii* to be a specially cool Orchid, and I make no doubt if similarly treated other plants might annually throw flower spikes. Its flowers are of a cinnamon colour, and they will

remain more than two months in perfection.—H. J. BUCHAN, *Wilton House, Southampton.*

AN AMATEUR'S VINERY.

MR. WITHERSPOON'S, CHESTER-LE-STREET.

WHEN an accomplished Grape-grower like Mr. Johnston of Glamis Castle states that a vinery is "worth going a thousand miles to see," that is sufficient testimony of its being worthy of notice in these pages. It was in company with Mr. Johnston, and Mr. Hunter of Lambton that I had the privilege of inspecting Mr. Witherspoon's Grapes at Chester-le-Street when the above verdict was given. Mr. Hunter is, of course, equally impressed with the excellency of the Grapes, but for a reason sufficiently obvious he is not in a position to express himself so freely as his *confrère*. It is in a great degree Mr. Hunter's success as a grower of Grapes that encouraged Mr. Witherspoon to commence their culture, and now that the Chester-le-Street amateur has succeeded so well he does not hesitate to acknowledge the value of the advice given by his Lambton friend, and not advice only, but substantial assistance.

Mr. Witherspoon is in the strict sense of the word an amateur. Throughout a long period of life as a practical builder he has devoted his spare hours to the pursuit of gardening, to which he was attached from boyhood, and now he is in a position, achieved by industry and frugality, to have a garden of his own, and to spend his whole time in developing its resources. He has taken up the special culture of flower after flower, ending with *Roses* and *Gladioluses*; and with the last-named flower has won high honours, not at local shows only, but at some of the chief exhibitions in England and Ireland. Fruit culture has, however, supplanted the flowers, few of which remain except *Roses*, and *Roses* and *Vines* now give a title to his home, which is designated the "Red Rose Vineries."

Chester-le-Street is a long straggling village, venerable in appearance, and having a bold ruggedness, which renders it in some degree picturesque. The houses were built, or most of them, before Boards of Works were invented, and no arbitrary rules as to frontages interfered with the growth of a gable end where it happened to spring up a few feet higher than its neighbour or several yards out of line; indeed, lines, levels, and laws of uniformity appear to have been systematically ignored in the architecture of this quaint place, for quaint it appears when viewed from the railway station above it, for the houses are clustered in a valley, along the bottom of which an open stream threads its tortuous course. At the opposite end of the village, about a mile from the station, we find a place of more modern aspect—the Red Rose Vineries.

The district is one of meadows and pasture lands, the fields being almost wholly devoted to the growing of fodder for the great numbers of horses which live and labour in the coal seams below the surface. The soil, which has this year produced wonderful hay crops, is a brownish loam, rather heavy but not clayey, and generally rests on a substratum of sand—at least that is its character in the field purchased by Mr. Witherspoon for the growing of Grapes, Peaches, &c., under glass, and hardy fruits in the open air. The position is also sheltered, being in a valley, and the atmosphere appears clear, there being no outlets in the immediate locality from the mines below. Thus both soil and position are peculiarly favourable for Grape culture, and another important local advantage bearing directly on the subject is that coals are cheap.

In the trenching of the ground for hardy fruit trees and vegetables the top spit of the pasture was reserved for the Vine borders. Of this fertile turfy loam the borders consist without any admixture except a few stones and lime rubbish in one house, and resting on sand perhaps no artificial drainage was required. The only other necessary was water, which Mr. Witherspoon, like Mr. Hunter, uses in large quantities, not to the foliage, but to the roots of the Vines. The water employed is rain water, which is conveyed from the surrounding hills and stored in a large cemented open cistern at a point in the garden sufficiently high to afford the requisite pressure for drenching the borders, and if need be the Vines too, through metal pipes and hose. The system of water-storing is precisely the same as that adopted by Mr. Cannell in his nursery at Swanley. Another matter reminding of Swanley is that Cannell's boiler is employed as the heating medium for the vineries.

Two houses are devoted to Grape culture, but only one demands special notice—the large lean-to house, 150 feet long

with a 23 feet length of rafter. The Vines were planted in March, 1876, and the crop now hanging is altogether splendid. The permanent Vines trained up the roof were planted 2 feet 8 inches apart. They have made wonderful growth and quite cover the roof, save a few feet left for the advantage of the fruit on the back wall, but are only cropped about one-third of the way up. Each Vine is carrying from six to twelve bunches, which for size, shape, and regularity of berries are worthy, at least a hundred of them are, of being staged at any exhibition of Grapes in the kingdom, while not one inferior bunch is to be seen in the vinery. It is not so much a few fine bunches as the high average excellence of the whole that impresses on the minds of visitors the superiority of the crop. The lower part of this fine roof, covered from end to end with noble bunches, is nothing less than a grand sight; but not less striking is the crop on the back wall. This wall is 14 feet high, forty Vines are planted at its base, and the whole wall is covered from top to bottom with bunches that would be a credit to any man if they were hanging from the roof. Knowing that when the roof is covered densely the Vines on the back wall will deteriorate, their owner is acting accordingly by cropping the wall Vines heavily; and those on the roof what many would call heavily too, but, considering their great vigour and extensive terminal growth, lightly. Such is the crop on the back wall and the character of the bunches, that there can be little doubt in one year the commercial value of the Grapes will equal the entire cost of the structure. As an instance of the crop on the wall let us take one Vine of Dr. Hogg, carrying seventeen bunches, which will certainly average $2\frac{1}{2}$ lbs. in weight, or upwards of 40 lbs. on one Vine. Another "nursing" Vine of Black Alicante has still a much heavier crop, having twenty-nine splendid bunches; but this is one of six Vines planted at intervals along the centre of the house, and trained with two rods to the top. The total number of Vines in the house is ninety-nine. Almost all the popular varieties of Grapes are trained both to the roof and the back wall, the best for the last-named position being, in Mr. Witherspoon's opinion, Black Alicante, the vigour of this Vine and its free-cropping and good-colouring qualities being its recommendations for such a position.

Gros Colman both on the wall and the roof is bearing noble bunches freely, the berries measuring $3\frac{1}{2}$ to $3\frac{3}{8}$ inches round. Some of the bunches will weigh from 4 to 5 lbs. Dr. Hogg on the roof has seven bunches 15 to 19 inches long, and berries $1\frac{1}{2}$ inch in circumference before showing colour. Golden Champion on the wall has six bunches, which will weigh from 3 to $3\frac{1}{2}$ lbs. each, the berries being fine and clear. This Vine happens to be in the most moist position in the house—near the tank, and it is to that circumstance that its satisfactory condition is attributed. Black Prince is bearing handsome bunches 13 inches long, and Syrian has three bunches weighing in the aggregate about 20 lbs. Black Alicante on the roof is in every instance splendid. Mrs. Pince very good, and Black Ham-burgh fine. Golden Queen has made a grand cane, and so has Waltham Cross, the latter bearing fine but not full bunches. The berries of this and another Vine or two near it not having set well owing to having been shaded by a large tree, which impeded the ripening of the wood last year.

The bunches in this house are not more remarkable for their size and shape than for the regularity of their berries. They have been carefully and admirably thinned. At the first glance the crop on the permanent Vines appears a heavy one, but when the system of thinning is considered the crop is not so exhaustive as it looks. Mr. Witherspoon's mode of lightening a crop is by the removal of berries from the bunches rather than cutting off the bunches themselves. The berries in the dark crowded centre of a large bunch cannot, he assumes, be of such high quality as those exposed to light and air, consequently all the interior berries are cut out, and only those are left which can have full exposure; the result is fine berries symmetrically arranged and highly finished. Great care is taken never at any time to touch the berries either with the hand or with water from the syringe, in order that they may ripen in the best condition as to bloom. The Vines are never syringed. The borders are heavily watered periodically, and are regularly sprinkled two or three times a day according to the weather, so as to prevent any dust rising; thus both Grapes and foliage are fresh and clean.

It may be stated that, anticipating the failure of the Vines that are now carrying such a remarkable crop on the back wall, Camellias are planted at intervals. The Vines will be cut away as the Camellias grow, and eventually the latter will cover the wall. Although comparatively slow-growing shrubs

Camellias are specially suitable for the back walls of vineries, and eventually are about the most satisfactory and profitable plants that can be grown in such positions. The Vines on the wall will produce valuable crops for two or three years longer, and by that time the Camellias, now well established, will have covered much space. It is not difficult to cover the back walls of vineries in a profitable manner, provided the same plan is adopted as above described—that is, by planting for covering the wall the moment the roof is glazed and the border made; but on the contrary, if the roof is first allowed to be covered, then it is a most difficult matter to furnish the darkened back wall satisfactorily.

The other vinery is a small structure, and was planted in July last with Vines presented by Mr. Hunter, and a good crop is now ripe. They demand no further notice, but a plan for protecting the Grapes from nocturnal visitors may be alluded to. It is rather novel. Stout wires are affixed to the back walls of the vinery at both ends of the house; the wires are taken along the front near the outer edge of the Vine border, where they lie on the ground. Every night two savage dogs are looped to the wires by rings in their collars, and these two sentinels traverse the wires from end to end, so that it is impossible for anyone to approach the Grapes without Mr. Witherspoon being apprised of the fact, his residence being close to the vinery.

Besides the above vineries Mr. Witherspoon has erected a Peach house and vinery combined. This structure is 200 feet long, has a great length of rafter facing south, and a short roof admitting light to the back wall from the north. Vines have been planted along the front this spring and are making excellent growth; Peaches being planted and trained to the back wall, and are also thriving in the best manner. The varieties are Royal George, Condor, Magdala, Goshawk, Large Early Mignonne, and Merlin. They were selected by Mr. Rivers, and were obtained from, as indeed most of them were raised at, Sawbridgeworth. The purchased Vines, which are doing so well in the house first referred to, were chiefly procured from Mr. W. Thomson of the Tweed Vineyard, Galashiels. Mr. Witherspoon also grows several fruit trees in tubs, and grows them well—Peaches, Nectarines, Plums, Apples, Pears, Figs, and Mulberries—as those for which he obtained a special prize at the late Newcastle Show bear witness.

The "field" outside, as Mrs. Witherspoon will persist in calling it, but in reality a highly cultivated garden, will eventually be a garden of fruit. Bush and pyramid trees of the best sorts have been planted liberally, and will in time occupy almost the whole space. At present much of the ground is cropped with vegetables, of which the owner prides himself in having carefully selected strains. Certainly the bed of Red Cabbages both for dwarf growth and high colour is an excellent one, the plants being true, even, and very fine.

It should be mentioned that Mr. Witherspoon has himself made and erected the extensive glazed structures, which are light, plain, durable, and well ventilated. But the work was not done without an obstacle. A tornado during the progress of the work lifted off half of the vinery roof after it was glazed and smashed a ton and a half of glass—a valuable hint, the owner coolly observed, that he must build more securely in future, and now the houses are safe. He has also erected a convenient and substantial house pleasantly situated. It overlooks the picturesque valley of the Wear, has a full view of Lumley Castle in the immediate foreground, and the woods of Lambton crest the distant hills.

It is a real pleasure to visit the home of one who has worked to such a good purpose and succeeded so well, and one who has taught as well as worked. The owner of the Red Rose Vineries has occasionally enriched the pages of this Journal, and his writings on horticulture generally, and on fruit and Grape culture particularly, must in future be accepted as those of one who has done more than he is ever likely to tell, yet one whose works entitle him to be listened to with that confidence which success inspires.—J. WRIGHT.

EUCALYPTUS GLOBULUS AT MUCKROSS.

It is truly encouraging to notice how this tree thrives at Muckross Abbey. The progress it has made since my last remarks in the columns of this Journal is most satisfactory. We have some fine specimens of the above, and it may interest some of your numerous readers to give the dimensions of it. One specimen, a very fine plant, has attained the height of 45 feet; girth 1 foot from the ground, $26\frac{1}{2}$ inches; at 3 feet

high the girth is 25 inches. This tree wears the most flourishing appearance at present.

On a former occasion I gave my opinion of the manner in which it should be sown—viz., to sow the seed where the plant is intended to remain, as the tendency of the Eucalyptus is to send down a strong tap root, which is the main support of the plant afterwards. If raised in pots the tap root assumes a spiral attitude, which it retains, and is therefore liable to be disturbed by every breeze and ultimately upset, whereas if sown where intended to remain the roots naturally assume their proper shape and direction for the future stay and support of the plant. Seeds of the above sown here on June 9th, 1876, in patches in the open ground have made rapid progress. I have treated them thus: As soon as the plants attained the height of 9 inches I removed all but the most promising, which are now 14 feet high and of the most perfect form and healthy appearance. In my opinion also the side shoots of the Eucalyptus require when young constant stopping as a young Fuchsia, which has the effect of strengthening the plant and giving it ability to stand unsupported.—A. CAMPBELL, *Muckross Gardens*.

THE TRANSFUSION OF ESSENCES.

We have had many instances of what may be called the transfusion of the essences of plants; one of these is familiar to everyone in *Cytisus Adami*, and we some years ago furnished another, where the essence of Doyenné Defais Pear was so transfused by the pollen into a tree of Beurré Superfin that the fruit of the latter actually produced fruit of Doyenné Defais, which we ourselves saw. The case which has now come under our observation is that of the Madresfield Court Vine, the essence of which has been transfused by grafting (as in the case of *Cytisus Adami*) into a plant of the Vine called Sarbelle Frontignan. The former produces a large handsome Grape and the latter a small and insignificant one; yet, through the operation of grafting, the essence and individuality of the former have so perfectly passed into the latter that it has produced a fine bunch of Madresfield Court fruit, which is now lying before us. We cannot do better than to print the communication which our esteemed correspondent Mr. Barrell has sent us:—

"A freak of Nature (if that be the proper term for such a case) has occurred in my vinery, which I am told by some eminent horticulturists is so remarkable that I send you a description. About eight years ago I planted three houses, each 20 feet square, with several varieties of Grapes. One of them, which has been appropriated as a stove, was planted with Muscat of Alexandria and Muscat Hamburg. The next year one of the Muscat of Alexandria failed, and I replaced it by one of which at that time I knew nothing—viz., Muscat Sarbelle. This I have fruited for the last four years, and have found it as Dr. Hogg describes in his 'Fruit Manual,' 'hardly worth a vinery,' and therefore last year I inarched Madresfield Court upon it from a Vine in a pot. The scion duly united and was cut from its parent, after which it continued to grow for some time. At the usual time of dressing and pruning I was about to cut back the stock to the inarch, when it (the inarch) came completely off, leaving not a trace behind. I told my gardener to leave the stock alone after that, as a few bunches of Muscat Sarbelle would be better than a blank space, and we would again inarch or graft it this year. Can you judge of my surprise at finding that the fruit the old cane of Muscat Sarbelle has brought forth very closely resembles the Madresfield Court, and is certainly as unlike the former Muscat Sarbelle as it well could be?"

"I send you (by rail, carriage paid) the last bunch I have that you may see it for yourself, and although it is much smaller and in worse condition than the others, it will be sufficient to demonstrate the curious sport. I regret that I did not think of it sooner so that you might have had a perfect bunch. I have left a lateral this year below the place of inarching, which I purpose fruiting next year to see if the same influence has in any degree been transmitted downwards as well as upwards."

The fruit sent is certainly that of Madresfield Court, rich in flavour, and with a more decided flavour of the Frontignan than is found in the normal form.

This is another instance which confirms our observations made at Culford Hall, and which have been so much discussed and questioned, and we can relate others. The following, observed at Dr. Newington's, are cases where the scion has exercised an influence on the stock.

The tip of a shoot of a Madresfield Court Vine was grafted on a shoot of Black Hamburg, and produced at 6 feet below the junction a bunch of Grapes having the round berries of

Black Hamburg, the normal form of the Madresfield Court being oval.

A Madresfield Court Vine had a White Muscadine grafted on it, and then it produced round Grapes; but when the Muscadine was removed it recovered its normal form and produced oval Grapes.—H.

GEUM COCCINEUM FLORE-PLENO.

A CORRESPONDENT, "L. L. D.," quoting the remarks relative to this plant which appear on page 398, vol. xxxiv.—namely, that it is one of the "earliest, brightest, and finest" of hardy border plants, adds that it is not only early but late, because it flowers with him continuously from early spring to late summer. He sends us flowers, such as he is in the habit of cutting for decorative purposes throughout the season, and



Fig. 18.—*Geum coccineum flore-pleno*.

urges the advisability of others having a similar supply. The flowers are well represented in the accompanying engraving, and it is only necessary to add that they are a brilliant deep scarlet in colour. The plants, we are informed, which flower so profusely are raised from seed, which is sown at the same time and in the same manner as Sweet William seed, and the plants have the same treatment as Sweet Williams. A bed of this fine old semi-double *Geum* should be in every garden where a supply of scarlet flowers is required for vase decoration. Young plants produce finer flowers and produce them more continuously than old plants, and hence it is advisable to sow a little seed annually so as to ensure a stock of vigorous plants. Plants raised from seed sown now would in all probability yield some flowers next year, and would certainly produce an abundant supply the year following. It is a border flower of the first order of merit, but to see it to the best advantage it should be grown in large masses.

OUR BORDER FLOWERS—POLEMONIUMS.

WERE I intending to form a collection of hardy herbaceous-foliaged plants I should most certainly turn my attention to

the Polemonium probably better known by the more homely name of "Jacob's Ladder." Why plants possessed of such merits for border and other decorative purposes are so neglected I am at a loss to conceive. We do occasionally see what is said to be a native of our land, but I entertain a doubt as to its citizenship. I allude to Polemonium cæruleum. It is a handsome spring and summer border flower, is of charming habit, having somewhat the appearance of a Fern while in a young state. It is also known by the name of Greek Valerian.

Polemoniums perpetuate themselves by seed, often becoming as troublesome as weeds. The seed may be sown as soon as ripe, or in the spring, in light soil on a rather sheltered border, or where they are intended to remain, and be thinned out as they require. They need a good space to develop themselves, for when left too thick they sometimes damp off. They are also increased by division in the autumn or spring, which is much the best mode when any variety is intended to be retained.

The variegated form is one of the most useful as well as one of the handsomest of hardy plants we possess. As an edging and ribbon-border plant for graceful appearance it cannot be surpassed. To keep the stock superior it requires constant care in keeping up a supply of young plants. When neglected they often run back to the original, especially if planted in moist situations. To have it in prime condition it should not be allowed to flower.

They are not an extensive family. Most of the varieties in cultivation have much the same habit and appearance; blue and white are the preponderating colours of their flowers. There are a few named varieties but seldom met with. They are not particular as to soil or situation provided it is not too heavy. A free loam suits them with efficient drainage.—*VERITAS.*

THE ROSE ELECTION.

I FEEL very grateful to Mr. Hinton for the friendly way in which he has met my criticisms on the subject of the Rose election.

I am so interested in all that concerns the Rose that I cannot forbear putting in my oar in every boat that is rowed; but I can assure my friend that I do not represent my own opinions only, but those of a large number of the best and largest Rose growers. If I were but to mention the remarks made at Hereford at a meeting of the best rosarians I have had the pleasure of being present at for a long time, Mr. Hinton would see that it is not the opinion of a mere Savage, but that the Wyld man was but the mouthpiece of a most influential body. Only yesterday I received a letter from one of the largest professional cultivators of the Rose saying, "I was glad to see your remarks in the Journal about the Rose election, in which I cordially concur."—*WYLD SAVAGE.*

"THE result will be what I do not hesitate to declare last year's was, 'a delusion, a mockery, and a snare.'" What, then, are we young amateurs to do? Here is "*WYLD SAVAGE*" making it out in the plainest manner that all our anxiety last autumn was in vain, that the Rose election is no better a guide to a grower for exhibition than would be a list of the Roses growing in an ordinary old-fashioned garden. I have had great delight the last two seasons in reading all that "*WYLD SAVAGE*" has said on his favourite subject; but I confess that his letter this week has quite upset me. After the election was published I quite beggared myself in order to complete my set, and now, at budding time, I am told pretty straight that I have been foiled and snared, and must I be foiled again? Is it "*WYLD SAVAGE*'s" turn to enter the ring? Is it the old game over again, the patient dying because the doctors differ? "*WYLD SAVAGE*" has driven me back to the details of the Rose election; I have chosen out seven of the best known amateurs that appear in the copies I can find, and this is the result. Out of the forty-eight Roses selected, "*D., Deal,*" names 34, Canon Hole 34, Rev. J. B. M. Camm 36, Mr. Curtis 33, Rev. E. N. Pochin 37, Rev. A. Cheales 40, and Mr. Parsons 30. I would suppose that these figures are a great tribute to the caution Mr. Hinton displayed in his selection of votes. When I compare the lists of the two champion antagonists at the National Rose Show in June last, I find that Mr. Jowitt had in his forty-eight twenty-nine Roses not in Mr. Baker's box. Fancy these two giants in their great struggle for the cup with their hundred of Roses of every kind having but nineteen in common! Yet "*WYLD SAVAGE*" says that these men, and such as they only, are to be our guide. I think he is very

severe on Mr. Hinton, and as one of the young and devoted lovers of our floral queen I could not help saying so.—*CURATE OF HOWDEN.*

RETARDING AND PREPARING FORCED FLOWERS FOR TRAVELLING.

[We cannot give a fuller and better reply to "W. T. K." and "A YOUNG GARDENER" than by citing the following on this subject.]

In following the ruling fashion of the times, and gauging the tastes of its wire-pullers, it is of some importance to keep a close watch upon the annual progress of recent innovations. We must judge for ourselves whether these are likely to pass safely through the ordeal of criticism and to establish a claim upon public attention for any length of time, or whether their recognition is not temporary, and due to some passing mania for novelty which is attracted by mere plated mediocrity, while it overlooks qualities that are of a more genuine and permanent character.

The subject before us is not an inquiry into certain fashions either retrospective or prospective; but our programme legitimately embraces the study of anticipated changes, and of schemes for working out the fulfilment of ideas that are best calculated to meet coming demands, and that are most in accord with the spirit of the times. Glancing for a moment on the past, there were signs of the foliage element taking the place of cut flowers to a considerable extent; but things have taken another turn, as the unquestionable increase in the demand for cut flowers very plainly confirms. The season wherein there is the greatest demand for cut flowers is from February to July, and there are many intervening periods which ought to be studied on individual grounds. In the first place, there is the growing of the plants and their peculiar adaptation for yielding supplies at certain times. There are individual fancies to be pleased in peculiar colours and even shades of colour, and there are certain times at which certain things are more welcome than others; but perhaps the most important thing to be studied is a proper selection of such subjects as will stand the oscillation of a luggage van without falling to pieces. It is in a way simple to grow and force flowers, but not so simple always to "hit the proper time" and transmit them to their destination in proper condition. Amongst a chain of complications there are features of varied import which, if exercised and applied with forethought, will be the redeeming features of the case; for instance, flowers that travel well should be kept in reserve for the hot weather, others of more intricate formation will answer quite as well earlier, and travel better in cold weather. All flowers can be hardened more or less gradually, and kept shaded from strong sun. The choice element—such as Orchids, Lilies of the Valley, Gardenias, Eucharis, Pancratiums, &c.—should be handled according to individual means to last over the season, so that every tray of flowers sent off shall have its fair contingent of choice things. Camellias will last from November till May. All efforts at retarding after the plants are pushing vigorously will only end in failure, therefore they should be kept as cold as is consistent with safety after the buds are set, and shading resorted to early in the season. The cooler the plants are kept the better the flowers will travel. Suppose the roof of the Camellia house is occupied with other creepers that would be injured by shade, they are a poor lot if they are not worth some special attention in the way of shade, which may be temporarily constructed inside the house and removed after the flowering season is over. Hyacinths, Tulips, Narcissus, and other bulbous plants are easily managed by rotation and hardened off according to coming demands from the warmest forcing house to the coolest frame behind a north wall. Cinerarias, Calceolarias, Prunuses, Deutzias, Spiræas, and other things may be handled in the same way, and later sowings of the two first-named may be turned out of doors altogether, and occupy similar places with little or no protection, except some slight covering, to be kept at hand in case it is required. This style of keeping your showy things out of public sight may be open to comment, but the writer never gives a pin for the critic or satirist so long as the only parties legitimately interested are satisfied. When there is any probability of a glut of Camellias or of *Maréchal Niel* or *Gloire de Dijon* Roses being caused by a sudden change of genial weather, and the flowers are situated so as to be beyond ordinary control, then numbers of other things that are more under command may be retarded in proportion by any of the means suggested elsewhere.

Rhododendrons that are forced in a high temperature had better be removed to cooler quarters before half the flower truss is expanded; indeed, for safe travelling all trusses should be despatched to their final destination before the centre flowers are open. Coming to other sections of plants that are forced under high pressure, it were better to work on some well-considered principle beforehand. If a small house can be spared which is conveniently situated in a cool aspect, with just a flow and return hot-water pipe round it that might be used in case of emergency—this house might be utilised as the centre of concentration or dépôt for receiving plants in various stages of flower from other houses. The house should have a proper shading in good working order and be well ventilated, so that the flowers could be shaded from the sun and kept cool preparatory to travelling. We are, of course, now assuming that the reader has followed our suggestions with the advancing season, and has not confounded our hints with very early forcing, in which case every bed must be open before the plant—whatever it may be—leaves the forcing house, or the sudden change will produce temporary stagnation, till the natural warmth excites a reaction.

Roses in pots, Azaleas, and all other portable subjects, either stove or greenhouse, will have their flowers greatly improved for travelling by this simple method of preparation; even stove climbers, and other large plants that cannot be carried about, may be materially assisted by lowering the temperature a few degrees, and by admitting more air during the time the plants are flowering at their best. East Indian and Mexican Orchids are none the worse of being hardened in company with other things, provided they are not exposed to draughts or sudden chills, which can be avoided with ordinary precaution; and it is no small advantage to have a spray or two of choice Orchid over as long a period as possible. I think it was Mr. Harrison of Knowsley I once heard make the shrewd remark, "You cannot finish off a box of choice flowers without a spray or two of Orchid." *Denbrobium nobile* is still the best of that large and interesting species, and is everybody's plant for cutting purposes. It stands packing better than most other Orchids, and is accommodating as to the time of flowering, either early or late.

For particular occasions, and in order to meet extra demands, we have kept plants, both stove and greenhouse, for days together in a Mushroom house. "Nothing to the advantage of the plants," the reader may retort, which we do not dispute, except to reply that "the end justifies the means." The indiscriminate adoption of such a principle would be generally condemned as extreme, except in the sense referred to.

There are many other plants of a commoner type that are indispensable for travelling purposes during the hotter months of the season. Amongst their number we would place pink and scarlet double Geraniums at the head of the list; their compeers, with more flimsy and delicate florets, have few qualities to recommend them to general notice for this particular purpose. Notwithstanding this, there are many families who would be unwilling to give up old favourites, such as *Crimson King*, *John Hoyle*, *Mary Hoyle*, and *Alba multiflora*, which can be had in flower early, and their ranks recruited with newer and better sorts, together with many of the Zonal section, which make admirable companions and give great variety in colour. Sharp forcing is never desirable with these flowers; but in case they are at all pressed, let them be shifted into a cool house in good time, and kept "right up to the glass," to give the flowers as much stiffness and substance as possible. They will be better of light, but no actual sunshine that is calculated to affect the flimsy framework of the opening trusses.

Advantage should be taken of dull cool weather, whenever the opportunity presents itself, to cut large quantities of these flowers. Previous to cutting, each flower should have a single drop of gum arabic, diluted to the consistency of water, dropped into the centre of each, which assists in keeping the petals together; and in packing let the flower trusses be strewn thinly over the surface of other flowers, so that they will regulate themselves into safe position on the first shake of the basket. Where there is an objection to carrying plants in flower into cool dark places, the flowers can be cut before they are fully open, and put in water in a Mushroom house or cellar, where they will keep quite fresh for two or three days.

Any flowers gathered from the open air had better be cut with a sharp knife before they are fully open in the cool of the morning, and treated in a similar way. As to packing, our own plan is simple: We have square baskets of different sizes, with tin trays 4 inches deep resting one above another inside,

the top one of each being a shallow one for Strawberries, divided into large and small compartments. There are, of course, duplicate keys here and in London. Shallow boxes from 3 to 4 inches deep are used for Camellias, which are tacked firmly to the bottom of the box; and a sprinkling of water completes the work. The tin trays are filled with the coarse flowers always in the bottom, and choice flowers are carelessly dropped in the vacancies between—we take care that each tray contains its full complement, so as to prevent violent vibration—and a layer of Maidenhair Fern covered with a sheet of silk paper concludes the packing, except a sort of rude baptism that is given as a reviver to keep the whole fresh on their nocturnal journey.—W. HINDS (in *The Gardener*).

MARGAM PARK.—No. 2.

THE SEAT OF C. R. M. TALBOT, ESQ., M.P.

HAVING on page 111 given a description of the general features of this fine place, we have now to add a few further details, treating more especially of its orangery, forcing house, and kitchen garden; and the first-named distinguishes it from all other places in Britain. It is not uncommon to see single Orange trees growing in conservatories, but at Margam we think the trees cannot number less than two hundred, which for size and variety are unequalled in any establishment in the kingdom. That the system on which the trees are grown is a sound one is evident by the success which has ensued. Many of them measure from 12 to 18 feet high, and from 12 to 16 feet in diameter; they are in perfect health, and carry heavy crops of fruit yearly. The treatment is different from that we are accustomed to see in the public gardens of France, where they are clipped in the close formal shape of a cone, and seldom, if ever, bear fruit. Here they are allowed to fully develop themselves, and the result of this and the general treatment is a profuse supply of fruit and flowers at all seasons.

The reason assigned for the existence of the orangery at Margam is this: The original trees of this collection, about a hundred in number, were sent from the King of Spain to Queen Elizabeth as a present, and the ship conveying them being stranded on Margam shores became with its contents the property of the lord of the manor. The original trees, still at Margam, are about three hundred years old, and have been in the family all that time, so it is no wonder that they take lively interest in them and their welfare. Many trees have been added to the collection since the first importation, and the original trees continue to flower and fruit as freely as those much younger. No doubt the climate and situation were favourable for their culture, but loving care must also have been bestowed on them to attain such good results. The trees were formerly sheltered during the winter months in a large old barn, which had been used by the monks of the abbey of Margam for keeping their grain, till the present Mr. Talbot's father erected the large Orange house shown in the engraving (fig. 19) accompanying this notice. It is a handsome building in the Doric style of architecture, extending to 355 feet in length by 30 feet in width, and 24 feet in height. On the broad terrace in front, where a great portion of the trees are placed in summer, there is a large and beautiful central fountain, with smaller fountains at either end.

Another and much larger portion of the Orange trees is arranged in a circle on a lawn adjoining, enclosed by thick arbours and stately trees of different kinds growing to a great height and affording fine shelter to them; while in the centre of the circle is a fountain with Water Lilies floating in its basin. Besides greatly adding to the beauty of the scene the fountains serve a useful purpose by keeping the air moist around them. The Orange trees are grown in square tubs about 4 feet wide and 3 feet deep, the compost being loam, leaf soil, decayed manure, and a little charcoal to keep it open. The tubs last from ten to twelve years. Once the tree is put in a tub it remains there as long as the tub lasts without receiving any fresh soil beyond that of top-dressing when it is required. The trees are well watered at all times and are never allowed to become dry at the root. They are watered two or three times a week with liquid manure from the pigstye during the growing season, which adds greatly to their vigour, freshness of foliage, and general productiveness. The singular sight is presented of seeing all stages of development of the fruit on the plant at the same time—ripening fruit, fruit just setting, and Orange blossom diffusing a pleasant aroma around. The fruit is preserved and used in different ways, as well as for

dessert. In a lean-to house close by of considerable length a number of Orange and Lemon trees have been trained up the walls and are bearing beautiful fruit. Planted in front of these are large Camellias, Fuchsias, Roses, and different kinds of greenhouse plants growing in great luxuriance, forming a kind of conservatory or winter garden for promenading during dull weather. About the middle of October the Orange trees are taken inside the orangery by means of a carriage specially designed to lift and carry them. The house is not artificially heated, the plants being hardy enough not to need this kind of protection, and they are placed outside again about the middle of May. Mr. Muir informed us that the plants were never subject to insect pests of any kind when treated in the way described above. The water for the fountains is obtained from an ornamental pond, which occupies a considerable area a short distance from the mansion and on a lower level to its right. It is usually well supplied with water from the drainage

of the adjoining wooded hills, and contains a good stock of trout. A visit to the orangery of Margam cannot fail to have much interest for all lovers of horticulture.

The kitchen garden immediately adjoins the gardener's house (which, by the way, is scarcely in keeping with the other fine features of the place) and is some five acres in extent; it lies to the north of the pleasure grounds, and is screened from them by large shrubberies and the back wall of the winter garden, which forms part of the north wall. Against this are sheds for different purposes, such as fruit room, store room, Mushroom house, &c. The south, east, and west sides are enclosed by high walls. It lies open to the south, and is sheltered from the north by the Oak-clad eminence already mentioned, and on all sides by plantations a short distance off. Though the garden is old the soil in many places is of a stiff clayey nature, and difficult to work in all kinds of weather. Notwithstanding this we found it in excellent order, and in a

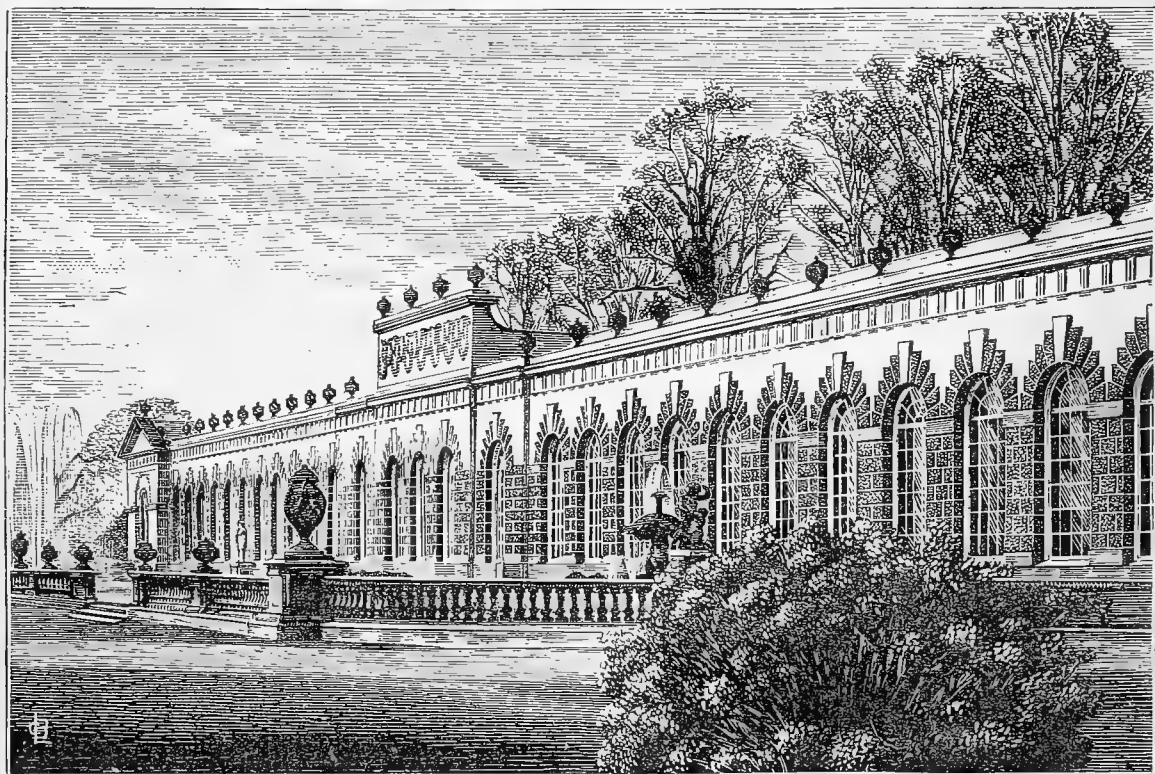


Fig. 19.—THE ORANGERY AT MARGAM.

high state of cultivation. Mr. Muir devotes great attention to this department. As soon as one crop is cleared off another is put in its place at once. The eye is soon attracted to a large quarter devoted to thirty sorts of Peas grown for trial, which include many of the old leading sorts. They were bearing heavy crops, and looked all that could be desired in that respect. Of the newer sorts Culverwell's Telegraph is the best, possessing as it does every good quality desirable in a Pea. It is a tall-growing variety with large, well-filled pods of the very best quality. Next to this is Carter's Challenger, a dwarfier grower, but a prolific bearer of great merit, and which should be included in all collections. Veitch's Criterion comes next, not so prolific but fills well. Large breadths are planted with Broccoli, Brussels Sprouts, Savoys, and other winter crops, all in an advanced state of growth and looking well. We do not pretend to give the reader a description of the different crops grown here; suffice it to say that they all looked well, and it would be difficult to find a piece of empty ground or a better cultivated garden.

Many of the fruit trees on the walls are old, but the most of them were bearing tolerable crops, considering that this has not been a good fruit season generally. Standard Apple and Pear trees in the open quarters were very good, but not so heavily laden as is usual in good seasons. Gooseberries, Rasp-

berries, Strawberries, Red, White and Black Currants were abundant. The Raspberries are planted in rows 6 feet apart and trained vertically on strong wire trelliswork, and the ground is never dug between the rows. That the soil and this treatment suit them is evident from the heavy crops they carry yearly. We do not remember ever seeing better crops of Raspberries than those anywhere.

The forcing houses and Melon ground occupy a portion of the south side of the garden. The front range, or lean-to structure, consists of two vineries, a fruiting Pine stove, and a Peach house, each being divided into sections of 40 feet. The houses are old and in good repair, but not so easily worked for ventilation as modern structures. The first we enter is the early vinery, which is planted with Black Hamburgs and Foster's Seedling. The Vines looked old, and had a somewhat stunted appearance, but they were carrying a good crop of medium-sized Grapes which were nearly ripe.

Next to this is the fruiting Pine stove. It is filled with strong plants of Smooth-leaved Cayennes and Queens, all showing handsome fruits, some of which were half swelled, others nearly ripe, and all of them in robust health. The Smooth Cayennes would weigh from 5 to 6 lbs., and but for the want of a proper command of bottom heat they would have been much heavier. Tomatoes growing in pots and trained on

a trellis on the back wall were covered with large fruit nearly ripe. The next division is planted with young Vines, which are in a vigorous state (the old Vines being still retained till the young ones fill the house). They embrace all the leading sorts in cultivation. The end division is a Peach house and late vinery combined. Both the Peach trees and the Vines were carrying good crops, considering that this arrangement seldom if ever answers well. Behind this range are potting and other sheds. Succession Pine pits, Cucumber and Melon pits and frames, occupy the Melon ground.

In closing, we cannot but congratulate Mr. Talbot, the respected proprietor of Margam, in possessing such an interesting place. He has always been a liberal promoter of horticultural improvement, and it is gratifying to know that he has around him in such rich measure and in such a peculiar form the means of ministering to his cultivated taste. We would also compliment the head gardener, Mr. Muir, on the manner in which the place is kept, and on the successful way in which he manages a department of horticultural work so much out of the range of the experience of gardeners in general.—A. PETTIGREW, *Castle Gardens, Cardiff.*

LAYERING.

THE system of propagation by layers commends itself to the owners of woodlands as being at once a cheap, sure, and expeditious method of filling up blank spaces throughout their hardwood plantations. At a comparatively trifling cost, and in an incredibly short time, a straggling coppice may by this method be completely filled up without any outlay except for labour; and the growth of such layering will far surpass that from ordinary planting, inasmuch as the vigour of the well-established stool is at once imparted to the new shoots, which receive immediate benefit from the abundant root-growth of the parent.

It is not intended in the present paper to enter fully into the principles of layering, which would necessitate an explanation of facts belonging to the science of vegetable physiology, but to dwell more particularly upon the practice.

The method of arresting the sap in its descent by layering the gardener avails himself of in numberless instances. He propagates his Carnations, Pinks, Roses, and a number of other plants by making an upward cut about half the depth of the joint or node, and fixing the cut part by pegging or otherwise in soil favourable to its striking, by which means the latent fibre develops its roots. As the juices of the plant exude at the point of partial severance they form a spongy mass of cellular matter, which is technically termed *callus*, and from which the roots proceed.

But though this practice has long been a common one with gardeners and nurserymen, its adoption to any great extent by the forester is still an event of rare occurrence. Yet the possibility of its being successfully and almost universally applied to hardwoods upon most soils renders it deserving of careful consideration.

As a consequence of its continued connection with the parent stool the layer is not so entirely dependant upon the season as is a transplant; and on account of its rapidity of growth it is much sooner out of the reach of ground game, and beyond the destructive powers of Briars and fast-growing weeds of various kinds. And as the peg and covering of soil fix the layer firmly in the ground, thus preventing all the evils of rocking by wind which so often proves fatal to young trees, the system is admirably adapted to the seaside and to other situations of exposure. Moreover it is applicable to almost every kind of hardwood, including the Oak, Ash, Sweet Chestnut, Elm, Alder, Birch, Lime, Plane, Poplar, Hazel, Mountain Ash, and Willow.

The methods of layering vary according as they are applied to nursery stock or carried out in the woods themselves. In the nursery, where good soil and careful cultivation afford facilities for the production of an abundance of small shoots which may be layered for future transplants, it is customary to select those of one year's growth, and to layer as many of these as possible around the stool.

One mode in use among nurserymen differs slightly from that adapted to the majority of hardwood plants. This is termed *hillock layering*, and is often applied to the Apple, Plum, Quince, Hazel, Magnolia, and Fig. By being cut low during the previous winter the latent buds near the surface develop into shoots, at the base of each of which it is customary to raise a hillock of soil. By pinching off the tops of

the shoots they are induced to throw out numerous rootlets during the following summer.

Multiple layering may be resorted to with the Vine, Fig, Lapageria, &c., by laying one of the last year's shoots in a trench and covering its whole length to near the extremity with fine soil. Every joint or node may thus by careful treatment be made to produce a separate plant.

As instances of the nursery practice of layering for future transplants we may select the Elm and the Lime. In the case of the Elm plants are first set out in beds at from 5 to 6 feet apart; at the end of the third or fourth year these are cut over like osiers to within three or four eyes, and then layered immediately the shoots ripen in the following autumn. The land being thoroughly cleaned and well pulverised the shoots are bent down and covered with 3 or 4 inches of fine soil, and also pegged when necessary. They may be detached the following autumn by being cut away with a very sharp knife and then planted out in the nursery, great care being taken not to injure the roots during removal. The stool should afterwards be carefully and evenly dressed back. In this way each summer's shoots may be layered at the end of the autumn. In dry weather the transplants should receive liberal waterings.

To prepare lines for layering in the nursery they should be cut over very near the surface of the ground. At the end of the first year bend down and fix the shoots as in the case of the Elm, by which means they will be ready for removal by November. As soon as the one crop is cut away the next may be layered to replace them. To secure a liberal crop of shoots for layering the stools should be kept clean, and occasionally well dressed with a liberal supply of good compost or vegetable mould, adding some sharp sand in cases where the soil is deficient in silex. By this treatment after the end of the third year from sixty to seventy plants may be produced from a healthy and vigorous stool, and these will generally attain a height of 2 feet by the time they are removed. If planted out in good nursery soil at distances of 2 feet by about 20 inches they will in two years be nearly 6 feet high. By transplanting them in the nursery every second year, and giving them additional space at each removal, lines may be grown to a great size, and afterwards be planted out with perfect safety.

For plantation layering the shoots should be allowed to complete their second year's growth, when the soil around the stool should receive a good forking or loosening. For every shoot to be layered a small trench should next be opened in the direction of its length, and to a depth of from 4 to 6 inches. If the branch will bend easily into its new position without cutting this may be done, but if not give it a slash with the knife upon its under side, taking care to keep the bark whole upon its upper surface; a hooked peg from 6 to 8 inches long may next be driven into the ground to secure the layer, and some good soil trodden down upon it insures an erect position for the head of the layer, and cut off the top above the first bud. Such layers will sometimes make a growth of 4 feet the first season.

The time for severing the layer from its parent stool must depend very much upon the quality of the soil, upon the season, and upon the size of the layer itself; as the poorer the soil and the larger the layer, the longer the time required to insure its complete establishment, and *vice versa*. But in ordinary cases it may be cut away at the end of the second year, when only one round of layering is required. If necessary, the same shoot may be again layered at the end of two years, and so on in succession until the whole vacant place is covered, the final cutting away of the first shoot being delayed until the last layer has become well established.

Where the original stool is fixed in tolerably good soil the layering from it may be extended over rocky surfaces, especially with the Oak, where there is very little soil, by loosening the face of the rock and insuring for the layer a sufficient covering of earth.

Remunerative coppice may be reared upon this system of planting or filling up much more cheaply and expeditiously than by any other method. As an illustration, we will suppose a piece of land to be planted with hardwoods, triangularly placed at distances of 20 feet, and the intermediate spaces filled up with Larch or other nurses. At the end of the second year cut back all the hardwoods. Two years after this it would be possible to layer many of the new shoots to advantage, and this may be done at once wherever there are blank spaces. But, as a rule, it will be better to allow these to grow on for another seven or eight years, and then again cut back the whole, removing at the same time such of the nurses as

may be found necessary. If the shoots from the stools have been thinned out at the first cutting, both the remaining poles and also the nurses now cut away will, especially in Hop districts, now be worth a considerable sum. Two years after the second cutting of the hardwoods remove most of the remaining Larch, and layer in all directions. Continue such layering every two years, until the whole space is well filled up.

The writer is aware that in many quarters there exists a considerable amount of prejudice against the system of layering in plantations; but at the same time he is thoroughly convinced that a fair trial under favourable circumstances of soil and situation will convince the most sceptical of its advantages. From the middle to the end of August is probably the best time for performing the operation upon strong coppice shoots.—ALFRED J. BURROWS, *Pluckley, Kent* (in *Journal of Forestry*).

NOTES AND GLEANINGS.

THE nursery of Messrs. Veitch & Sons at Chelsea has a rich addition made to its already rich store of Orchids, and Mr. Dominy, the firm's famous hybridist, has achieved another triumph. The latest addition and striking acquisition is a NEW *CATTLEYA* raised by Mr. Dominy, and now flowering for the first time. It is the result of a cross between *C. Dowiana* and *C. exoniensis*—parentage which might have been expected to produce something fine, but such a remarkable flower as the one just expanded could scarcely have been anticipated. The most striking feature of the flower is its grand lip, grand alike in size and colour. The form of the lip is evidently taken from *C. Dowiana*, but where the colour has come from is one of those mysteries of Nature that occasionally evoke both our wonder and admiration. The lip of the new variety is 2½ inches broad and 3 deep, and the margin is undulated. The colour is not easy to describe, indeed it was possibly not quite fixed when we saw the flower immediately after its expansion. The prevailing colour, however, appears to be velvety maroon, very deep in the centre and shading to purplish violet, the undulated edge having a narrow wire of pale violet, and the throat is slightly veined with buff. The sepals and petals, which are 3 inches long, are a purplish magenta, the former being about half an inch broad. The whole flower is massive, and is suffused with a satiny gloss that renders it additionally attractive. It is unlike any other *Cattleya*, and is unquestionably a rich addition to a rich genus of plants. Three flowers are produced on one stem, and they well compensate for the ten years of waiting and cultivation which have been necessary to bring the plant to its flowering state.

— ONE of the finest and most extensive displays of BALSAMS that we have seen was in MESSRS. CARTER & CO.'S NURSERIES at Perry Hill, where special attention has been devoted to this popular flower during the present season. The plants are of course grown for producing seed. There are five thousand of them. They are grown in low span-roofed frames that the firm had made for growing annuals in pots early in the season. The flowers are now fading and seed pods are forming, but not in great profusion, for the simple reason that flowers so double as these are do not seed nearly so freely as semi-double flowers. Two distinct types of Balsams are represented—one a strong robust-growing sort with correspondingly large flowers, designated The Challenger; and the other dwarf, sturdy, and floriferous, with smaller but equally double flowers. The plants are arranged in groups of distinct colours—of white, cream, flesh, salmon, pale rose, violet, purple, plum, and crimson as selfs; other groups contain striped and marbled flowers, and then there are large groups in which all the colours are mixed. In order that the plants have good attention both as regards selection and culture they are placed in charge of a man who devotes his whole time to them, and who further acts under the immediate supervision of the firm's critical and energetic manager Mr. Sharman.

— AT the monthly meeting of the SCOTTISH HORTICULTURAL ASSOCIATION on Tuesday night, the 6th inst., the President in the chair, Mr. Alexander Honeyman read an instructive paper on the "Nutrition of Plants," dividing his subject into four heads—viz., How Plants Grow; On What Plants Grow; the Application of their Food; and the Influence of Light and Temperature. The essayist dwelt at considerable length on the different heads of his paper, and succeeded in putting before the meeting some of the principal facts that every gardener should make it his study to know. He con-

cluded by strongly enforcing the necessity of gardeners making themselves acquainted with the rudiments of chemistry, and expressed the hope that the time was not far distant when chemistry would be as widely known among horticulturists as it now is among agriculturists. Mr. Wm. Black next read a paper on the "Cultivation of the East Lothian, Warriston, and Ten-week Stocks." He described the modes of cultivation followed in the Dean Cemetery, where these Stocks grew so luxuriantly. Messrs. Dickson & Co. received a certificate for new Phlox Surprise, and Mr. R. Robertson received certificates for new Carnations Rosy Queen and Mrs. Robertson.

— WE last week referred to some attractive flower beds in Mr. Baring's garden at Coombe Cottage. Equally worthy of notice are other departments under Mr. Baker's care. VINES IN POTS for starting in October for producing ripe fruit in March are splendid. They are cut-backs, the canes being 15 feet long, strong, and studded with bold eyes. Young Vines planted out are also in a most promising state. Peaches under glass have just ripened a fine crop and are now ripening their wood. The lights are removed on account of alterations being made, otherwise they would have remained on the principle that it is heat, not cold, that ripens wood. A fine pit of the Criterion Tomato, which Mr. Baker considers the best variety in cultivation, is affording fruit in abundance. Plants throughout the houses are in excellent condition. Orchids are numerous, healthy, and clean; several plants imported this spring appear quite established and are making remarkable growths. Gardenias grown in large pots and plunged nearly over the rims are most luxuriant and produce blooms continually, and Stephanotis overhead is producing wreaths of wax-like flowers. To brisk heat and abundant supplies of water the satisfactory condition of these and other tropical plants is attributed.

— FEW men work harder than those employed in nurseries, and a day's recreation now and then is well merited by such men. We observe by a local paper that the *employés* of Messrs. Carter & Co. of Perry Hill and those of Messrs. J. Laing & Co. of Forest Hill have had a change of occupation—namely, a day in the cricket field. The representatives of the Perry Hill Nursery were the victors.

— IN visiting gardens in different districts we occasionally come across the DUKE OF BUCKLEUCH GRAPE thriving satisfactorily. At East-Cliffe House, Lincoln, a Vine in a mixed house has this year produced seven good bunches, and the berries are not only admired for their splendid appearance, but are highly esteemed for their superior quality. The owner of the garden referred to, Mr. N. Clayton, has all the best varieties of Grapes, but none is so much enjoyed as "the Duke." A few of the berries are slightly spotted, but others are perfectly clear, and measure 4½ inches in circumference. The Vine is on its own roots and has grown as freely as any of the other Vines in the house. Mr. Wipf, the gardener, states that it bears freely enough when not too closely pruned, but if the laterals are cut off close to the old rod it is not certain to produce bunches. When well grown this is certainly a noble Grape of splendid quality.

— WE have received from Mr. H. Cannell, the Nurseries, Swanley, some flowers of BALSAMS of remarkable quality. None of the blooms are less than 2½ inches in diameter, and they are perfectly double and imbricated. The colours are white, flesh, scarlet, violet, and crimson, many of the darker flowers being further marbled with white. The flowers sent to us represent an excellent strain.

— MR. GODWARD, The Royal Nurseries, Southend-on-Sea, writes:—"I have the *EUCALYPTUS GLOBULUS* growing in my nursery which is now showing bloom buds. Can any of those who read your Journal inform me if this tree usually blooms in this country? The seed was sown in March, 1876, and the seedlings were planted out in June the same year. It is growing rapidly, and has attained the height of about 20 feet. If the *Eucalyptus* grows in other parts of England as it does here it must become a valuable tree."

— THE *Irish Farmers' Gazette*, after referring to the excellence of the plants and cut flowers exhibited at the Royal Horticultural Society of Ireland's Show, states that the SHOW OF FRUIT was magnificent, the display of Grapes being one of the best ever seen at the Society's Exhibition. The Veitch Memorial medal for the best three bunches of Muscat of Alexandria was deservedly won by Mr. Roberts, gardener to the Countess of Charleville, with a stand

which well supported his reputation as one of our foremost Grape-growers, the bunches being splendidly finished and in every way models of cultural skill and care. The bunches exhibited by Mr. Hawkins, Belfast, were next in merit, and reflected credit on the skill of his gardener, Mr. Magee. The Hamilton fruit prize for the tray of six bunches of Grapes was also won by Mr. Roberts with grand bunches of Black Hamburgh and Muscat of Alexandria; the second prize was awarded to Mr. Hawkins, and the third to Mrs. Daly, the stands exhibited by each being of high merit. Nectarines were first-class, notably those from Emo Bark, the best variety being Victoria. For Peaches Mr. Kirby, Killester Garden, was first with a dish of marvellously sized fruits of Walburton Admirable; the second place being awarded to Mr. Wilson for Noblesse. Figs were good. Of Pears, Plums, and Apples there was only a small display, but Gooseberries and Currants were largely shown. The show of vegetables was first-class, all the collections, some fourteen in number, being good; the best were, however, those exhibited by Mr. Corballis and Col. Nugent.

— It is a little surprising that the distinct and brilliant *BEGONIA FROBELLII* is not more extensively grown for autumn decoration. Usually we find plants more or less drawn and attenuated by having been grown in too much heat, and in that state they are not attractive. We have recently seen plants raised from seed sown during the spring of the present year that are dwarf, healthy, and vigorous, and just showing a profusion of flowers. The plants have received much the same treatment as Primulas, and are now growing in cool frames.

— **PRESERVING PEAS GREEN.**—The following is extracted from the "Rural New Yorker":—"Never attempt to can peas in glass or earthenware, as all efforts to do so have proved unsuccessful. Provide strong, new tin cans, and the necessary conveniences for soldering. The peas should be fresh from the vines, and cooked as soon as shelled. Boil the peas in water sufficient to cover for ten or twelve minutes, seasoning with a little salt; then fill the cans two-thirds full of peas, adding enough of the liquor in which they were boiled to fill to the brim. Wipe the groove dry, put on the cap, and solder airtight at once. Make a small puncture in the centre of the top, and place the cans in a boiler of hot water, to boil for an hour and a half. Have something at the bottom of the boiler, as broken crockery, to keep the cans off from the bottom. Take the cans out from the boiling water, one at a time, and open the puncture with a needle, to allow of the escape of gas and steam. Then solder it tightly, and return to the boiler to boil two hours longer—even three will do no harm. If the cans are still airtight one need have little fear of fermentation of their contents."

— **THE EMPLOYÉS** of Messrs. Sutton & Sons, the Queen's seedsmen of Reading, with their wives and friends, and accompanied by the members of the firm and their families, numbering in all between three and four hundred, had their annual excursion on the 2nd inst. Brighton was the place chosen, and at 7.10 A.M. a special train left Reading, reaching Brighton at ten o'clock. On arrival lunch was partaken of, and the party afterwards availed themselves of the numerous attractions of this favourite watering place; some visited the Aquarium, while others tempted by the calm sea went sailing in three yachts. At 1.30 the whole party assembled for dinner, at the conclusion of which Mr. M. H. Sutton, Mr. A. Sutton, Mr. M. J. Sutton, Mr. H. Sutton, and Mr. Arthur J. Sutton severally addressed those present. Again separating the beautiful neighbourhood of Brighton, the pier, &c., were visited by the excursionists, and at 6.30 the whole party were entertained at tea by the firm. At 8.10 in the evening the train left Brighton, and after a very rapid run reached Reading at 10.30. No accident happened to mar the pleasure of a most enjoyable seaside trip provided by the liberality of the heads of the establishment.

— We regret to have to announce the **DEATH OF MR. ROBERT SIM**, of Foot's Cray in Kent, at the ripe old age of eighty-seven. The sad event happened on the 3rd inst. Mr. Sim was very well known as an ardent cultivator of Ferns, and there was perhaps no better British pteridologist living than he was. He has died as full of honour as of years.

— "NATURE" says, "We have received from Messrs. Eberstein of Dresden a specimen of an interesting 'WALKING-STICK' for naturalists or tourists. The stick is a perfect *multum in parvo*, and contains quite a museum of scientific instruments.

The handle alone contains a compass, a double magnifying glass or pocket microscope, and a whistle. Below it there is a thermometer on one side of the stick and a sand-glass on the other. The body of the stick is partly hollow, and in its interior holds a small bottle, which is intended to contain chloroform or ether for killing insects. Along the outside of the body there is a half-metre measure, showing decimetres and centimetres. Near the end of the stick a knife-blade may be opened, which serves for cutting off objects which cannot be reached by hand, such as aquatic plants, &c. At the extreme end a screw may hold in turn a spade for botanists, a hammer for geologists or mineralogists, a hatchet, or a strong spike, which would be of great use on glaciers. The whole is neatly finished in black polished wood."

— **THE American "Gardener's Monthly"** refers as follows to the **DEATH OF MR. JAMES FLEMING**:—"This well-known seedsman of New York died at New Canaan, Conn., on July 10th. Mr. Fleming was born in Ayrshire, Scotland, in 1833, and was consequently forty-five years of age. He was an excellent type of the best class of Scotch gardeners, an educated intelligent man, thoroughly versed, not only in the varied details of all the branches of horticulture, but was besides an excellent botanist; but his character was so innately modest, unassuming, and unpretentious that only his most intimate friends were aware of his varied acquirements."

FERNS IN NEW ZEALAND.

NUMBERS of Tree Ferns are sent away to Europe to delight the eyes of Fern lovers with their beauty. Sometimes when passing through bush clearings, amidst the blackened remains of thousands of Fern stems, one is almost tempted to regret that there should be a limitation to the carrying capacity of ships, so that more of our forest beauties might be preserved. Let us devote a few lines to the service of owners of bush land, an appeal to their cupidity—we mean conservatism, which we gather from catalogues of Fern-growers of the first class in Europe. The common Silver Tree Fern, with stems of 6 to 8 feet, appears to be retailed at prices varying from £25 to £42 each, specimens of *Dicksonia squarrosa* at £21 each, *D. antarctica* at prices that range up to £5 5s., whilst our *Hemitelia* appears to be unknown, at least to the trade of Fern dealers. After this statement of the value of Ferns among an appreciative people, may we not hope to have the ever-ready match sometimes withheld, and many a picturesque Ferny glen spared from the flames by the proud owner of so much forest wealth, only requiring transport to its distant market? Whether our hopes are well founded or not we cannot help mentioning a specimen Fern. Seen about three months ago it would have made any Fern cultivator eager for its possession. On the bank of a mountain creek, where lofty trees grew sparingly, stood a majestic specimen of the Silver Tree Fern, its noble head well decked with wide-spreading fronds, hugely expansive; the rough brown stem for some 20 feet laced over with the twining cords of the large-flowered *Clematis* (*C. indivisa*). Just below the towering crest of this grand Fern, amidst ample wreaths of dark shining foliage, glistened the pure white blossoms of the lovely creeper, glorious in their bountiful profusion; here and there some of the snowy garlands with clinging reach stretched over the green canopy of fronds, swinging in the soft breeze, with the wild coquetish grace of Nature. Poets have often sung of the Ivy or Vine clinging to the sturdy Oak—

"The female Ivy so enrings the bark of the Elm."

Could any of these sylvan marriages surpass in picturesque beauty the union we have just attempted to describe, where the stately Fern upheld the trembling *Clematis*, arrayed in all her charms of bridal purity?

We have been looking upwards so long at tall Tree Ferns that it is time to lower our gaze and begin to make acquaintance with the *Hymenophyllæ* or Filmy Ferns. We shall now, therefore, have to peer into shady ravines and gullies, search amongst rocks, tree stems, and mosses, in order to find these fragile members of the Ferny tribe. In writing of the *Cyatheæ* we have had constantly to speak of measurements of many feet, now we shall have to deal with many of the minute forms which give such variety to the collections of the Fern-grower. Our country is very rich in the number of species of *Hymenophyllæ*. This extensive group is divided into three genera—viz., *Hymenophyllum*, *Trichomanes*, and *Loxoma*; of these the two first are generally distributed, whilst the last-

named is restricted to a few localities in the North Island. The delicate members of this extensive division are greatly prized by cultivators in the old country; they make pets of them, they take an infinity of trouble to ensure their successful growth. To show this fully let us jot down a few instances from well-known writers concerning but one species, and that perhaps one that we should consider one of the least interesting. Concerning the almost cosmopolitan Tunbridge Fern, far more common here than in England, Shirley Hibberd writes thus:—"A cynosure, a paragon, a paradox." We wish this enthusiastic Fern-grower could see our *H. scabrum*, *dilatatum*, *polyanthos*, or *demissum*, some of them in broad spreading masses covering perches of ground, and forming colonies by ascending and annexing neighbouring tree stems. The author of "Select Ferns and Lycopods" incidentally proves how much the Filmy tribe is appreciated. Writing of the same species that called forth praises from Shirley Hibberd he states as follows:—"We have had *Hymenophyllum tunbridgense* growing in a very small glass case—in fact, in a bottle, for the last two years, in a little silver sand at the bottom, and the bottle corked up tightly so that no air can get at it, except when the cork is removed to give it a little moisture." *H. tunbridgense* is found in many parts of Europe, Asia, Africa, South America, as well as Australasia. Here it may be collected from the coast to the backbone of the interior, covering rocks damp rather than wet, on the roots and stems of trees, amongst moss where any great amount of moisture is carried off by rapid drainage. We have seen it growing on the dry clay or cob in a *Fagus* forest, where it has drooped perpendicularly. In the Alpine country it may be noticed nestling in sheltered nooks of gullies, where during winter months the cold is most intense, the locality often above 2000 feet over the sea level. Here it may be grown without much difficulty either indoors or out by the cultivator who will afford it abundance of shade and put his faith in sandstone. However, we must leave this elegant toothed species, and turn to others which have greater claims on us from their greater beauty. *H. bivalve*, another member of the group that have their margins toothed, is indeed a lovely species. It grows in the densest masses; fond of moisture, its beauty is displayed to the greatest advantage in spots where a mountain spring moistens well-shaded rocks. A few weeks since, in a bush that shuts in the head of one of the secluded bays of the Banks Peninsula we saw a grand mass of this delicate plant. On the slope of the hillside glistened a patch of the deepest verdure, measuring some 70 yards in length, with a width varying from 3 to 10 yards; this was one continuous mat of *H. bivalve*. In all probability this lovely example of this Fern has been since destroyed, as bush fires have been raging on the Peninsula, settlers taking advantage of the present extraordinarily dry season to effect wide clearances. *H. multifidum* does not require much remark after the preceding species, which it resembles pretty closely, but it has the margins more sharply toothed; like *H. bivalve* it has a wide distribution over both islands. The little pendulous *H. rarum* differs very much in habit according to the locality in which it is found. Near Christchurch some of the dwarfer forms may be observed near the top of the small patches of bush that dot the native reserve at Ruapaki; it enjoys plenty of light and air, yet requires shelter. It is found to grow very well in moss on sandstone. It is a beautiful object in the fernery, and well repays the toil of collecting and some expenditure of trouble in making it grow freely. From *H. rarum* we follow Dr. Hooker's arrangement and next take *H. pulcherrimum*, one of the most beautiful of the genus; in fact, the learned author of the "Handbook," in his description of this Fern, writes thus:—"Tall, stout, bright green, very handsome." It owes much of its loveliness to the glossy wings which are continued to the base of the stipe; pendulous from trees, it is indeed a gem amongst Ferns. In the depths of the West Coast bush it grows luxuriantly, reaching in length some 20 inches. Perhaps we have no nearer locality than the Otira to give as an habitat; amidst the wild picturesqueness of that far-famed gorge, in some favoured nooks may be collected the lovely *H. pulcherrimum*.

The broad Filmy Fern, *H. dilatatum*, occupies the first position as regards size, and in the opinion of some collectors its claim for beauty entitles it to the first rank amongst the group under consideration. Its large almost transparent fronds, often carried erect or only slightly decurved, differ greatly in form; some are ovate, broadly ovate, or oblong. In the great Westland bushes, or amongst the woods that fringe the deep fiords and inlets or sounds of the west coast of the Middle

Island, the area covered by some of these beautiful species (such as *H. dilatatum*, *demissum*, or *T. reniforme*), must be reckoned or guessed at possibly the square mile; yet who has ever felt sated with gazing on their verdant forms, so varied, yet all so lovely? Their rhizomes creep along the surface of the ground, their transparent foliage covering rocks and gnarled roots; wide-spreading, aspiring, they ascend the stems of lofty trees whose expansive branches are gaily and thickly festooned with elegant garlands of those delicate Ferns. What woodland beauty can surpass that of a gigantic Rimu (*Dacrydium*), the resort of numerous parasites? From every branch sway vines and cords of climbing shrubs, its own pendulous foliage in itself a very fountain of verdure, its drooping limbs arrayed with these graceful green trappings, the sunlight excluded, subdued, or dimmed with the dense masses of translucent fronds gently waving from aloft like tiny banner-rolls amidst the glow of crimson Rata and the scarlet trumpet bloom of *Loranthus*, the long leaves of *Freyinetia*, as it twists like a huge boa around some mighty stem with close embrace. Ah! think of a scene like this, and then in fancy turn to peer in on the poor Tunbridge Fern imprisoned in a close-stopped bottle! But in truth it must be said this incident of the little prisoner has often lent a keener relish to the enjoyment of some delicious bit of woodland scenery, and we have often wished it possible that this good enthusiastic Fern-grower could share the delight of rambling through some fair paradise of Ferns where the Filmy tribe luxuriated in all their lavish beauty. *H. crispatum* or *javanicum* is sometimes found with a very tufted habit. It is very hardy, as we have had it from the Havelock River over 2000 feet above the sea level; we have collected it nearer Christchurch in the Malvern Hills, growing sparingly in company with *Polypodium australe* and *P. graminifolium*. It is easy of cultivation, and grows fairly well on soft sandstone, good drainage indispensable. *H. polyanthos*, another hardy Filmy, which would probably grow well in the west of England or Ireland, enjoys a most extensive range both within the colony and also abroad. A large proportion of the Canterbury district is, either from its lack of forest land or from its dryness of climate, but an indifferent habitat for Cryptogams, still there are places where some thrive, and certainly amongst the prettiest of these must be included *H. polyanthos* or *H. sanguinolentum* (by-the-by the latter synonym is derived from the peculiar odour given out by the plant in a dried or half-dried state). To see this Fern at home let us cross the wide Canterbury plains, whence the wicked squatter has been driven, and where industry and energy has compelled the tussock-clad wilderness to yield its golden crops of grain; from the plains as we ascend the hills we ramble amongst creeks that sweep over the famous coal beds of the Malvern Hills. Now for our Ferns; we follow the devious course of a small but rapid river, whose shallow stream is specked with many a jutting rock, or here and there shelved by ever-shifting gravel spits, over the edges of which the swift stream rattles noisily. After a long tramp we enter the welcome shade of a *Fagus* bush lying somewhat high amongst the hills. On the outskirts everything looks dry and unpromising for Ferns; we pass battered *Ti Palms*, prickly-leaved *Cyathodeas* and brownish *Dracophyllums*. Soon we reach a different scene. Under the broad-foliaged *Panax*, *Griselinia*, and berry-bearing *Coprosma* which shade the water-worn banks, where broad-topped *Fagus* trees, black-stemmed and lichen-mottled, stand somewhat thinly scattered, on dryish clayey banks, over rocks and stones, more rarely on stumps and boles of trees, we may find the thickly matted masses of our Fern, fronds of medium size, let us say 6 to 8 inches in length, in patches of many yards extent; it forms a close-set velvet pile, mostly of darkest emerald hue, shining and bright. Under the hot breath of the desiccating nor-wester it becomes crisp, even brittle to the touch, its brightness has departed, the fronds curled up assume the appearance of dried seaweed—apparently it is destroyed; yet see it under the reviving influence of a soft shower or heavy mist, and own its beauty. Dew glides along the winged rachis, gathers into a lustrous drop with shifting lights and rays of colour like the sparkling fires of a fine opal, it weighs down the point of the glistening frond ere it falls dispersed on the translucent foliage of the matted Ferns below. *H. polyanthos* is an unfailing weather gauge, giving a faithful record of atmospheric changes which the observant may readily interpret; its vitality should make it valuable to the Fern-grower, as it will survive much ill treatment. From our own experience in the open air fernery its most persistent enemy is to be found in that Ishmael

amongst birds, the Weka. Beneath the imbricating fronds a goodly number of insects find refuge; this causes our friendly Weka to make use of his investigating bill as a convenient instrument for clearing the fernery from insect pests. His work in that direction is fairly entitled to the praise of being called thorough.—G. (in the *New Zealand Country Journal*).

(To be continued.)

NOTES ON VILLA AND SUBURBAN GARDENING.

KITCHEN GARDEN.—Attend to the directions given in previous calendars as far as regards hoeing and clearing the ground of weeds, in order that neatness and regularity may prevail in every part of the garden. Clear the ground of decaying Pea haulm, Potato haulm, or old Cabbage stumps, and fill the ground again at once with Coleworts, Winter Spinach, or a sowing of Turnips. Advantage should be taken of moist weather both for sowing and planting, and the seeds will germinate the sooner and the plants become more speedily established. To ensure a sufficient supply of Spinach throughout the autumn and winter months sow a breadth at once, and again towards the end of the month. The first sowing will in all probability furnish an abundant supply of large green leaves throughout the autumn, while the crop from the latter sowing will not be nearly so succulent, and consequently harder and the more likely to withstand the severity of the winter. The prickly-seeded or Flanders is the best for this sowing, and should be sown in drills from a foot to 15 inches apart, thinning the plants to a few inches apart between the plants.

The orthodox time for sowing Cauliflowers for a supply during May and June of the following year is about the 20th of the present month, but this may be varied a few days either way in accordance with the district. In the north and colder districts the 20th is quite late enough for sowing, but in the southern or warmer parts towards the end of the month will not be found too late. Experience teaches us that if the plants be sown too soon they are apt to button, and on the other hand if sown too late they will not be sufficiently strong to pass the winter. Sow Walcheren and Early London varieties on a border of light soil, and water the seed bed occasionally if dry weather ensue.

Cabbage seed may yet be sown if sufficient seed has not germinated from former sowings. None will be found better and sweeter when cooked than Wheeler's Imperial. We grow quantities of this variety planted only about 15 inches apart, which supplies us with small compact tender heads. If a larger variety is needed the Enfield Market and Battersea are well known standard sorts.

Carrots sown now on dry warm borders will be found most useful for drawing during winter and early spring, especially on those soils where there is a difficulty in obtaining a sufficient supply from the spring or main-crop sowings. Early Horn is a useful variety.

Sow both the Flat and Globe Tripoli Onions, to be transplanted in the spring for making large bulbs and for using in a young green state. Pull those bulbs of winter-sown Onions that are well matured, and bend the necks down of those that are yet green and upright, also lay the crop of spring-sown varieties; these will also soon be in a fit state for pulling and laying on their sides to ripen off previously to storing for the winter. Garlic and Shallots will be fit to take up, and may be treated in the same way as described for Onions.

Spring-sown Parsley has this year been a failure in many places, and later sowings have had to be resorted to. Make another sowing for winter and spring use, and transplant any of the previous crops in warm sheltered situations. In places where Parsley is growing strong and luxuriantly it is a very good plan to cut down close to the ground a portion of the crop. The young new growths made after this time withstand the winter much better than the summer-made growths, which in hard weather speedily turn brown.

Sow Endive at once. Fraser's Broad-leaf and the Batavian are hardy varieties, and when well bleached are useful for salads, or they are often used boiled as a vegetable as a substitute for Spinach; the Moss-curl is also one of the best for the earliest supply. Plant out those already strong enough to transplant. Sow the Black-seeded variety of Brown Cos Lettuce for withstanding the winter. Transplant others to have an abundance for the filling of cold frames and other appliances to carry on a full supply up to Christmas. Radishes, Mustard, Cress, and Chervil may also be sown as required. They will be found to keep longer fit for the table than those that have been sown during the previous month. Gather Mint, Thyme, Marjoram, and other herbs for drying, and when dry let them be put in paper bags for use during the winter months.

Lift Potatoes as they approach to maturity and before the disease attacks them. Early varieties on light soil are more or less diseased, but late varieties up to the present have escaped the murrain. Plant out more Celery, and water that already transplanted to enable it to make a rapid growth.

Strawberries.—The planting of new plantations must no longer be delayed if good fruit is expected from them next year. Runners that were recommended to be layered in pots will now be in fine order for planting out, and will make plump crowns and well-established plants by the end of the season; it is from these plants that very large fruit may be expected. The Strawberry delights in a deeply trenched and well manured soil. The runners of all sorts are now in good order to be taken off for propagating, and may be planted thickly in a nursery bed, from which they can be transplanted permanently at some future period. Remove all runners and superfluous growths from established plantations, but do not adopt the barbarous system of cutting all the leaves, and run the hoe lightly through the ground to make all neat.

Conservatories can be now kept gay with tuberous-flowering Begonias, Lilliums, Gladioluses, Balsams, Cockscombs, Fuchsias, and zonal Geraniums, relieved with Ferns, Caladiums, and other fine-foliage plants. As soon as Achimenes, Gloxinias, or other stove plants go out of flower or show signs of distress remove them at once to the stove before they receive injury by being kept too long in too low a temperature. Tuberous-flowering Begonias are now grown in great profusion, and from a single packet of seed a quantity of varieties may be raised. Messrs. Laing & Co. of Stanstead Park exhibited a large collection at the Royal Horticultural Society recently, which had, with a few exceptions, been all raised from seed sown in January of this year. Their easy culture, compact and floriferous habit, recommend them to all growers with limited means. With the help of a frame or ordinary greenhouse these Begonias may be well grown. The tubers if potted about April in a light, sandy, friable loam will soon make decorative plants, or they may be planted out in the open ground in May. Several varieties are planted out in Battersea Park, and they produce a brilliant yet elegant effect. As the plants in pots go out of flower water must be gradually withheld from them, and the soil should be kept moderately dry throughout the winter and safe from frost. Of the named varieties Vesuvius, Emperor, Sedeni, Feu de Joie, Moonlight, John Laing, Paul Masurel, Oriflamme, and Gloire de Nancy, are all good, and so are many others.

WORK FOR THE WEEK.

MUSHROOM HOUSE.

COLLECT from day to day the droppings of horses fed upon dry food, as those of animals fed upon green fodder are not suitable for the growth of this esteemed breakfast delicacy. They should be had with about a fourth part of short straw, and spread out thinly upon the floor and shelves or other places protected from the weather. In some instances the horses stand upon sawdust, hence the droppings cannot be collected without a portion of the sawdust. This kind of material forms good and durable beds; but we prefer to add a fourth of straw, though that is not essential to the production of Mushrooms, yet from its steady decomposition is alike favourable to the heat of the bed and the vigour of the mycelium. In other cases the procuring of droppings fresh from the stables is unattainable; if had at all they must be taken from the dung yard. In that case the droppings must be shaken out with a fork, rejecting the long litter; and being done well—i.e., as much straw removed as possible, a very good material is obtained, and one that may be employed at once without fear of overheating. In all the above instances the staple is horse droppings with a portion of straw. Some prefer an admixture of loam, but unless very fibrous we have not found any advantage from its employment other than for the surface of the beds. Other material than horse droppings grows excellent Mushrooms. The finest we have seen were produced by sheep droppings, hay, and Oak leaves, the *débris* of a sheep pen, the hay and leaves being about equal to the bulk of the droppings. Good Mushrooms are also had from Oak or Beech leaves mixed with an equal quantity of horse droppings, and from those and straw saturated with urine, &c., from stable and cow houses with an admixture of a fourth part turfy loam; but the principal agent in the production of Mushrooms being nitrogen those substances that afford it most abundantly are the most likely to afford the best results providing the material be not allowed to heat, as in that case a large proportion of the nitrogen would be given off in the form of ammonia; therefore in preference material that has not heated is to be chosen.

Whatever the material may be it must neither be very wet nor thoroughly dry, but just sufficiently moist to form when beaten a firm close mass. When a sufficient quantity of the material is collected for the formation of a bed, which may be of any size according to the means and requirements, throw it into a heap with a base of about 4 to 5 feet, and a yard in height in the centre. In three or four days a gentle heat will be generated, when the material may be formed into a bed by placing a layer of 2 to 3 inches thickness, beating firmly with wooden mallets, then another, and so on until a depth of 12 to 14 inches is secured of thoroughly solidified compost. Some employ water, but unless the material be too dry it is better omitted, and in case of its necessity employ no more than to make the manure compress. In the case of the

manure being too wet it must be laid thinly on a floor in a dry shed and be turned over frequently, or a portion of dry short straw may be mixed with it; yet droppings saturated by rains are of very little value for the formation of Mushroom beds, for the spread of the spawn and the development of the Mushroom from the mycelium depends upon the steady decomposition of the material, old spent droppings being practically useless. In four days, or from that to a week, the heat will be (as it is termed) up, it may be to 90°, 100°, or more. When it is above 90° make holes about 4 inches deep and 9 inches apart, which will let off any rankness and to some extent lessen the heat. Insert the bulb of a thermometer 4 inches deep into the bed, and when the temperature declines to 80°, and not less than 75°, place in every hole a piece of brick (spawn) 1½ to 2 inches square, making sure that it is thoroughly permeated with the mycelium of the Mushroom, and fill the holes with the material of the bed firmly, the pieces being about 2 inches beneath the surface. In a week remove a piece of the brick, and if the material of the bed in contact with it has been infested with the same white small threads that the brick exhibited when inserted return the piece to its place and cover up, and at once proceed to earth the bed. Turfy loam neither heavy nor light is best, that taken off a pasture with its turf about 3 inches thick and stacked up for six months. This, chopped up fine, and in a medium state as to moisture, being neither wet nor dry, yet sufficiently moist to heat into a firm mass, put evenly over the bed 2 inches thick, either treading or beating with mallets firmly, and finishing off by beating with the back of a spade and smoothing the surface with the same. If it cannot be smoothed the surface must be watered, afterwards smoothing with the spade. In about six weeks the Mushrooms will begin showing; the bed should then be watered gently, or damped by the syringe every day until the surface is brought into a moist condition, but avoid anything like soddenness. Except in the case of beds in draughty sheds we never use hay, but in dry draughty places a covering of soft hay about 2 inches thick is desirable to secure to the beds an uniformity of heat and moisture. In the Mushroom house proper hay is not necessary. In watering care must be had not to water over the Mushrooms indiscriminately, but avoid them by damping between or pouring the water just a little from the spout. The floor and other available surfaces must be kept damp. No fire heat is needed, only to maintain a temperature of 55°. If the house be infested with woodlice it is well to place some boiled potatoes at the angles formed by the wall and floor or shelves, covering with a little hay, and in the morning pour boiling water over the hay. Prevention is better than cure, it being desirable to start with a thoroughly clean house, as if only a few of the pests are present they will increase rapidly and be sufficiently troublesome before the forced Mushroom season is over.

FRUIT HOUSES.

Figs.—The second crop of Figs on the earliest forced trees will now be ripening or ripe, and should not receive more water at the roots than to maintain the foliage fresh, and syringing must be discontinued or the fruit will crack, besides being deteriorated in flavour. A free circulation of dry warm air is essential to the ripening of the fruit and wood. When the fruit is all gathered the main point is to secure the proper maturity of the growths, which if due attention has been given to stopping and thinning the shoots little will now be required except attention to ventilation and watering, which last should only be given to prevent the soil becoming too dry, and of the former they can hardly have too much, provided the air be warm. The syringe should be laid aside, only calling it into requisition as a means of subduing insects. Upon the ripening of the wood depend future crops, therefore the circulation of warm air must be maintained until the leaves die off naturally. Any trees crowded with foliage should have the shoots thinned, so as to admit light and air to those retained to insure their thorough ripening. Trees that ripened a first crop in June will soon be ripening the second crop, and should be liberally supplied with manure water if the crop be heavy and the trees at all weakly; but if vigorous and the crop not heavy clear water will be all that is wanted, with syringing overhead twice a day, proceeding as before advised when the fruit commences to ripen. Excepting trees in pots Fig trees should not at any season be exposed to the weather by removing the lights, but should have abundant ventilation; but those in pots, from growing less vigorously than trees planted out, are the better if exposed to open-air influences after the crop of fruit is gathered, selecting a sheltered sunny situation, which will do much to invigorate them and harden the wood.

ORCHARD HOUSE.

Apricot trees that have ripened the crops of fruit should be well syringed for some time to thoroughly clean the foliage. Those in pots when the fruit is gathered may with advantage be placed in a warm situation outdoors, the pots being plunged in ashes and placed upon the same to prevent the ingress of worms. They must be thoroughly syringed every evening. It is wonderful what influence the sun has upon the young wood and spurs in plumping the buds and ripening the wood. The roots must not be neglected for water. In cold localities the placing of these and Peach and

Nectarine trees in pots outdoors after the fruit is gathered is not advisable until the leaves begin to die off naturally, therefore our northern friends will act accordingly.

Peaches and Nectarines ripening their fruit will not require so much water at the roots as when the fruit is swelling; but though a lessened supply is desirable it must not be withheld so as to cause the soil to become dry, or the foliage will suffer and future prospects be jeopardised. The trees should be gone over daily for the removal of ripe fruit, the hand being by far the best agent in gathering the fruit. Even a net is not advisable, as the fruit in that case is deteriorated from over-ripeness, and if the fruit have to remain in the fruit room after gathering for a few days it is superior to that falling from the trees. The trees after the fruit is gathered may be placed outside as advised for Apricots, they being thoroughly syringed to free them of red spider, &c. Trees planted out ought, as soon as the fruit is gathered from them, to be syringed every evening, and water afforded the roots to maintain the foliage in a healthy condition.

Plum trees swelling off the fruit must be well supplied with water at the roots, and liquid manure up to indications of ripening, when a somewhat lessened supply is desirable, syringing at that time ceasing, or the fruit will crack and be poor in flavour as compared with those that are ripened under drier or more favourable circumstances; but late kinds of Plums, as also Peaches and Nectarines, to be well supplied with water and syringed every evening. Plum trees, when the fruit is all gathered, should be placed outside in a sunny situation, cleansing the foliage with water from the garden engine.

Pear trees in pots when in duplicates may, as regards a portion of the trees, be placed outside, indeed there are very few Pears that are not improved in flavour by placing them in the open air to ripen; and with a view to prolong the season of some early kinds, that at most keep but a few days after being ripe, a portion of the trees may be placed behind a north wall, thereby retarding the ripening of particular varieties.

Grapes growing over the pathway or orchard houses will now be ripening. The syringing in their case must cease, the laterals being kept well stopped, they should also have a good watering at the roots; but other descriptions of fruit trees should be kept somewhat dry at the roots as the fruit approaches maturity without withholding water so excessively as to cause premature falling-off of the foliage or retarding the ripening of the crop. Not much stopping will now be necessary, but it must still be practised upon irregular and gross growths, and superfluous shoots should be removed altogether. Admit air abundantly day and night, except when the latter is cold, or during the prevalence of high winds. Wasps and birds are both numerous and voracious; they are best excluded by hexagon netting over the ventilators, the wasps being tempted to drown themselves by hanging soda water bottles outside the house half filled with sweetened beer.

PLANT HOUSES.

Stove.—It is fully time to give more than ordinary attention to flowering and other stove plants in conservatories, as the nights at this season, though the days may be bright and hot, are frequently low in temperature, in which case tender plants should not have positions very near the ventilators, or those should be closed, otherwise the effect of the cold will seriously affect the plants. A cold night if followed by a hot day will not have any prejudicial effect upon the plants, as the heat will induce a circulation of the sap; but if the days are also cold and several of such succeed each other the sap becomes so sluggish as to tell disastrously upon the plants. In such weather very little water will be required at the roots, yet in the case of flowering plants sufficient water must be given to maintain the freshness of the flower, and what is given should be in the morning, at a temperature of 85° to 90°. It is advisable to employ a little fire heat in cold weather, presuming that the majority of the plants are from the stove, but if other plants in the structure are likely to suffer from the extra temperature it will be advisable to return the plants to their proper quarters in the stove.

The forwardest of autumn and winter-flowering plants, such as *Eranthemum pulchellum*, *Euphorbia jacquiniæflora*, *Poinsettias*, *Plumbago rosea*, *P. coccineum superbum*, *Thyrasanthus rutilans*, &c., will have filled the pots with roots. Instead of shifting the plants into larger pots afford weak liquid manure, keeping the plants near the glass in a low light house or pit, affording free ventilation by day to secure stout growth, and providing a little air at night, which has a decided ripening tendency; but on cold nights it is not desirable to admit air, as that would be a means of bringing off the lower leaves, which it is desirable to retain if possible, not only for the sake of appearance, but to afford the vigour essential to the size and quantity of the flowers. Stocks of the above or similar plants that were struck later will be in free growth, and must have every encouragement to complete it, but on no account allowing them to suffer for water at the roots.

Orchids.—In the East India house, now that the weather is cold and the sun less powerful, a closer atmosphere will be needed. In dull weather the moisture must be lessened, and the temperature maintained at 75° by day and 65° by night, syringing the blocks,

and well damping the house by three o'clock in the afternoon, employing the shading only to prevent the sun scorching the foliage. Every encouragement should be given to *Aërides*, *Phalenopsis*, *Saccolabiums*, *Vandas*, &c., as regards growth, any check being inimical to the growth of the leaves. See that the sphagnum in the pots or baskets of *Phalenopsis* does not become sodden, or the leaves soon show symptoms of distress. Dispense with shading altogether in the *Cattleya* house; they cannot have too much light to secure the thorough ripening of the pseudo-bulbs, upon which depends the flowering strongly. Some *Orchids*, as *Dendrobiums*, *Oncidiums*, *Cattleyas*, *Lælias*, *Barkerias*, and *Epidendrums*, &c., if not well ripened do not flower satisfactorily. Plants that are suspended should be over the pathway, or in such positions that the drip from them in watering and syringing does not fall upon those growing on the benches. *Calanthes* repot, employing a compost of turfy loam and peat in equal parts, adding a little old cow dung and some pieces of charcoal about the size of a hazel nut. Good drainage must be provided, keeping the plants about an inch below the rim of the pots. If the soil has become sour the plants should be shaken out carefully and the roots washed in tepid water. As flowers are becoming scarce every care should be taken of plants in bloom, keeping them from damp, those nearest the glass being most affected. *Cattleyas labiata*, *Harrisoni*, *maxima*, *crispa*, and the *guttata* type will flower from now up to autumn, and with *Odontogloss* will maintain an effective display.

TRADE CATALOGUES RECEIVED.

Francis & Arthur Dickson & Sons, 106, Eastgate Street, Chester.
—*Catalogue of Dutch Flower Roots*.
Lorenzo Racaud, Freule à la Puerta de Santa Encracia, Zaragoza.—*General Catalogue of Fruit and Ornamental Trees, Roses, &c.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

IS THE STRAWBERRY A FRUIT OR A BERRY? (*H. D.*).—The Strawberry is neither a fruit nor a berry in the true botanical sense of these terms. The true fruit of the Strawberry are the small seeds that are found sprinkled on the outside of the fleshy receptacle, the latter being popularly termed a berry.

VINE LEAVES DISCOLOURED (*Amateur*).—The Vines producing them were extremely vigorous, and caused them to develop abnormally. Less sap is supplied to them now, and the excessive growth consequently is defective in colour.

WALTHAM CROSS VINE.—"A Gardener" wishes to have the opinions of practical men who have cultivated this Vine. We will publish any opinions communicated to us.

PEACH TREE DYING (*Senex*).—No one could decide which is the probable cause without seeing the tree.

FLOWER SEEDS AND ROOTS FOR TASMANIA (*E. R. P.*).—Of seeds send *Potentilla*, *Aquilegia*, *Antirrhinum*, *Campanula*, *Auricula*, *Bocconia*, *Carnation*, *Pink*, *Picotee*, *Canna*, *Cyclamen*, *Foxglove*, *Dianthus*, *Delphinium*, *Geum*, *Fernia*, *Fraxinella*, *Helianthus*, *Lathyrus*, *Pentstemon*, *Polyanthus*, *Giant Cowslip*, *Pyrethrum*, *Sweet William*, *Viola*, *Wallflower*—all fine hardy perennials, and most of them having several fine varieties which any good seedsman can supply. Of bulbs and dried roots we should send a collection of herbaceous Peonies, some *Ixias*, *Sparaxis*, *Tritomas*, *Tuberous Begonias*, *Gladioluses*, *Liliums*, *Irises*, *Anemones*, *Ranunculus*, *Narcissuses*, and *Dahlias*.

CULTURE OF *CLIANTHUS DAMPIERI* (*Australian*).—Sow the seed in February or March, using 3-inch pots, and for soil a rich mixture of turfy loam, leaf soil, silver sand, pounded charcoal, and a fair proportion of very fibrous peat if possible; if, however, the loam is thin and fibrous the peat may be dispensed with. Place one seed in the centre of each pot, plunging them in a lively bottom heat, lifting the pots up on the surface when the plants are visible and are growing freely. Water carefully. Repot as soon as the roots touch the sides of the pots, taking especial care to keep the bottom of the stem slightly above the surface, inattention to this causing the frequent losses of young seedlings. After repotting they may be taken to an intermediate house or vinery at work, and as the plants gain size and summer advances they may be removed to an ordinary greenhouse, where they should have plenty of light and air.

FIG TREE IN POTS (*A Young Gardener*).—After the first crop of fruit is gathered the trees should be thoroughly cleansed by syringing, and if need be sponging the leaves with a solution of soft soap, 2 ozs. to the gallon of water, affording water plentifully to the roots and syringing repeatedly, placing the trees in a warm part of the house with a view to accelerate the perfecting of the second crop, though to do so perfectly they should be placed in a separate structure, where with good treatment they will ripen a crop of fruit late in the season, which is very acceptable.

RAISING SARRACENIAS FROM SEED (*M. E. Walker*).—This seed soon loses its vitality, and should be sown as soon as it is received. Half fill a pan with broken potsherds, and fill nearly to the rim with a mixture of half fibrous peat and half sphagnum moss with a little silver sand. On this sow the seed, which leave uncovered, and lay a sheet of glass upon the top of the pan or use a bellglass, and plunge the pan to the rim in a lively bottom heat, such as Melons or Pines are growing in, taking care that it does not fall below 80°. The seed, if kept constantly moist, will germinate in about a month, and when the young plants have made a few roots pot them in similar compost in small pots.

TRANSPLANTING A LARGE CAMELLIA (*J. W.*).—The best time for transplanting your large Camellia is when the flowers fade, so as to have it settled in its new quarters before the new wood growth appears. As this quickly follows the fading of the flowers you must be prompt in order to give as little check as possible to the plant. Pay especial care to watering, syringing, and shading in the following summer.

PRUNING RHODODENDRONS (*White Rose*).—It is too late to prune Rhododendrons this year, it should be done immediately after the flowers fade. Wild Cherries are budded just like a Rose. No more time should be lost, as it is getting somewhat late; the operation may, however, be done now successfully.

GRAPES NOT KEEPING (*C. W.*).—Throw open the ventilators day and night now, and as autumn draws on and the weather becomes dull and damp close the ventilators at night and employ a little fire heat. Keep the bunches free from dripping moisture, let the air circulate freely among them, and the fruit will remain in excellent condition for two or three months.

SHRUBS FOR A FENCE NEAR LARGE TREES (*H. R. Willis*).—There are no better shrubs for your purpose than Hollies and Rhododendrons; both are handsome evergreens, and both answer well near and under large trees. Make a fence of strained iron wire outside your avenue with a permanent growing fence of common green Holly with a belt of Rhododendrons inside. If there are any spaces fully open to sun and air turn them to account for mixed groups of such choice shrubs as *Days*, *Laurestinus*, *Golden Holly*, *Ribes*, *Spiræas*, *Escallonia*, *Berberis*, *Arbutus*, *Daphnes*, *Skimmias*, *Perneytas*, *Lilacs*, *Weigelas*, *Box*, and *Portuguese Laurel*.

BLACK APHIS (*A. M.*).—We think, upon examination, you will find the insect now infesting your Roses and flower beds is not a thrips, but is an aphid. Sprinkle all infested growth with clear tobacco water of an evening after the sun is set, using 2 ozs. of tobacco to each gallon of water. Repeat this a few times at intervals of a couple of nights, and you will have no further trouble.

VINEGAR PLANT (*A. A. M.*).—The Vinegar Plant is a species of fungus which comes upon the surface of stale vinegar in the guise of a film. Now is an excellent time to obtain it by leaving a little vinegar in the bottom of a cruet or small bottle and throwing in a little coarse brown sugar. The film will soon make its appearance, and must remain undisturbed till it becomes sufficiently thick to bear removal. Dissolve half a pound of coarse brown sugar and half a pound of treacle in two quarts of boiling water, and when it is cool put the plant into it. The plant will float and soon cover the entire surface, and the liquor will become vinegar in about two months. It answers best in a jar with a lid to exclude air, and the jar should stand upon a shelf in the kitchen or in a warm cupboard. The vinegar is strained and bottled when ready, and the entire plant or portions of it again used for making a fresh supply.

SUMMER MANAGEMENT OF *LIBONIA FLORIBUNDA* (*Idem*).—After *Libonias* have done blooming in spring they should be gradually hardened, so that by the end of May they may be pruned, shaken out of the pots, and planted for the summer in an open border. Here they make a strong bushy growth, and are taken up and repotted about the third week in September, or a little earlier in the north, placed in a close pit or frame for a week or two, and then taken to their winter quarters in the greenhouse. The answer to "Australian" contains the information you require about *Clianthus*.

TRAINING MARECHAL NIEL ROSE (*W. W. B.*).—We do not quite understand your sketch, but presume that A is the top and B the bottom wire, the wires being stretched horizontally one above the other like those of a fence. If you stop the shoot when it reaches the wire A we do not think it would put forth laterals to furnish the lower wires; it would certainly not do so this season, but would simply produce shoots at the top. So far as we can understand the position of the plant and wires we are inclined to recommend that the shoot grow this season without being stopped. We would then depress it considerably before fresh growth is made in the spring—in, indeed, would bring it to a horizontal position along the lowermost wire, and would shorten it then at the point you propose, stopping it now. The shoot being horizontal the buds would break regularly, and would supply laterals for each wire, which could be occupied by placing the parent shoot in the vertical position required. By allowing the plant to grow freely this year you will encourage root-action, which will induce a correspondingly strong growth next year. If, however, the plant is very strong you may stop it now about the wire C, so as to produce laterals for furnishing C, D, and E this year, leaving wires B and A to be occupied next year. It all depends on the strength and vigour of the plant as to which is the preferable plan to adopt. Your great point to aim at is to have the growth on wire E in advance of that on the wires above it, or your trellis will not become covered at the bottom. The easiest and perhaps the quickest way of covering the space you require would be to let the shoot grow unchecked, then train it along the bottom wire, and from it train shoots vertically across the wires to the top.

DESTROYING RED SPIDER (*M. G. M.*).—The mixture is not neutralised by the lime sinking to the bottom; it usually sinks, a film rising to the surface. The quantity of lime you use is not material.

BULLOCKS' BLOOD FOR ROSES (*Idem*).—Dilute one gallon of blood with seven gallons of water, and apply to the roots when the flower buds are showing.

SOWING CARNATION SEED (*A. A. M.*).—The seed may be sown now, but we doubt if the plants will flower next year; they will, however, make fine plants for flowering in 1880. Sow now in rich light soil, either in pans or in the open border, and keep the soil moist and shaded until the seedlings appear, and then keep them well protected from slugs. *Dianthus Heddergigi*, if sown about the middle of the present month and the plants are protected during the winter, flowers early in the summer following; but seed is usually sown in the spring, the plants flowering the same season.

MUSHROOM BED NOT PRODUCING (*Idem*).—Either the spawn was not good when inserted in the bed, or the bed was not in the right condition for the spreading of the mycelium. It was either too hot or too cold, too wet or too dry. You must make a new bed and insert fresh spawn. You will find full instructions in "Work for the Week" in the present number. The withered flower and leaf appear to be those of a *Lantana*.

CUTTING MELONS (*Inquirer*).—As soon as the fruit commences cracking round the stalk it may be cut. If the aroma is powerful the fruit may be severed from the plant even if no cracking is perceptible.

NAMES OF PLANTS (*W. Crick*).—1, *Yucca filamentosa*; 2, *Lycosteria formosa*; 3 is, we think, a *Cornus*, and 4 a *Mahonia*, probably *M. japonica*.

We do not name plants from leaves only. (*J. W. Collins*).—1, *Veronica Hendersoni*; 2, *Euonymus japonicus* fol. aur. variegatis. (*Arthur Miles*).—*Lathyrus sylvestris*.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

HARVESTING OF BARLEY.

WE have made the harvesting of wheat, oats, and barley the subject for separate articles, as there are certain circumstances in connection with the securing of each of these crops which differ in some material points. Although each of them stands in an important position connected with the profitable management of the home farm, yet they have a different value, not only for use as grain produce, but also for straw and fodder purposes. In the harvesting of winter barley, which is a strong and robust kind of grain with a short thickset ear, and coming ripe as it does very early and before the wheat crop, it does not require different management in harvesting from the wheat crop, and there is usually but little difficulty in securing a favourable harvest for it, especially as the grain is only required for meal purposes or to sow in admixture with fodder crops like vetches. The straw, also, is not generally used for fodder, it being long and strong, and is best adapted for all the purposes to which wheat straw is applied, including thatching, for which purpose it is very wiry and durable when harvested with care and thrashed by one of Clayton & Shuttleworth's machines, which deliver the straw from the machine as straight and uninjured as reeds. The usual sorts of barley used as a spring-sown crop for the best purposes may be said to consist only of two distinctive varieties, or rather having two separate objects in view, which refer to soil as well as the purposes to which the grain is applied.

The strong coarse-growing barleys, such as the Red-bearded American and the Long-eared Nottingham, both of which are well adapted for high cultivation and deep alluvial soils, may be usually harvested with less trouble and care than the Golden Melon and Chevalier varieties. The two former kinds being long and stiff in the straw may be the more easily tied into sheaves after being cut with the reaping machine; but the two latter sorts, which give the best samples of malting grain grown in the kingdom, are chiefly grown upon the light and cold soils, are short and soft in the straw, and the more easily become laid and twisted about, making it difficult to cut by the reaper and more difficult still to tie into sheaves. It is, however, desirable for all sorts of barley to be tied into sheaves and set up in stooks if clean and straight-grown, more especially in a showery season; because when cut and left on the ground when there is clover amongst the crop, it being then all exposed to alternate rain and sunshine, it inevitably becomes stained and discoloured; whereas when once it is cut and tied in the dry and properly shocked, taking care to set the sheaves well out at the bottom and the tops carefully settled in together, it will endure a great succession and long continuance of adverse weather without serious injury. Only the outside of the sheaves is then exposed, and consequently only a portion of the grain will be stained; it may, therefore, be ultimately secured as a malting sample. The only objection we have ever found to tying barley and setting it up in shock is that it kills the clover. Now in the case of an oat crop with clover the shocks of oats may be moved every few days if the weather is bad without serious injury to the grain, and thus relieve the clover seedlings. Not so with barley, because in a showery season its removal would be fatal to the sample as malting grain; on the other hand, if it remains in shock without removal until carted to rick it kills the young clover plants under the shocks. It thus becomes a question of cropping—whether it is desirable to sow clover in barley as a rule. We think not, and that the barley intended to furnish malting grain should be sown without clover seeds with it. We have another

strong objection to clover in barley, because we think the growth of the two crops together interferes with the plumpness of the grain, and that in the mixed soils of the country the barley would produce a much better malting quality in the absence of the clover seeds. We have no doubt that this opinion is shared by the majority of the practical farmers; but, unfortunately, the conditions of farming as drawn in the leases upon various estates compel the tenant to sow clover and grass seeds in the Lent corn. We also find that on many estates in the hands of practical land agents that such matters are gaining more attention, being altered by giving more liberty of action to the tenant as to the mode of cropping, not only in this but in various other important respects.

The state in which the barley crop is found at the commencement of harvest is very much affected by the previous crop. For instance, when barley is grown after roots fed off by sheep the crop will be generally very uneven, for where the stock feed the roots upon the land in wet weather the barley crop is sure to suffer and grow with great irregularity. The crop will be found to be best in bulk and sample, where the roots had been fed in dry and favourable weather, and, unfortunately, the best and worst parts of the produce cannot often be harvested separately. In those cases where a line can be drawn so as to cut and tie the best portion of the crop and cart it to rick or barn separately, it is advisable to do so, as sometimes the best malting barley would fetch as much as 15s. per quarter more than that only fit for meal purposes.

The time of cutting barley is of far more consequence than other grain, for whereas wheat and oats are benefited by early cutting, on the other hand barley should (if malting grain is required) never be cut until both straw and corn are dead ripe. This is usually indicated by the ears hanging down, and the grain being not only hard but the skin shrivelled on the back of the grain. If it is cut early the grain becomes steely and only adapted for grinding purposes. The question of straw of barley is only a secondary matter, as we value it but little for feeding purposes unless it is short in growth with a quantity of clover in it, well secured without rain, as we prefer wheat or oat straw for chaff-cutting for horses and cattle. The use of the reaping machine with self-binder is of less use for barley than for other grain, as it seldom is delivered straight enough to tie in good-shaped sheaves; it is more likely to be in unsightly bundles. Nor can we recommend the wire-tying for barley, as the wire interferes sadly with the feeding value of the straw. Much of the barley is this year very much laid and twisted, so that it cannot be cut with the scythe without cutting off too many ears. We, therefore, in some cases must resort to the fagging hook as the best way of saving the most corn and having the grips in the best order for tying. Many persons object to the tying of barley because of the extra expense, but it is only in the payment for cutting and tying, all the work afterwards being done not only at less cost but with much greater celerity. The loading and carting to rick takes less time; the rick is better and quicker made, particularly if made round; after the rick is made it takes less thatch, does not require to be whipped outside, the butts of the sheaves only require to be shaved close. Again, when it is thrashed it is much less work to haul to the machine than loose corn, and much more quickly thrashed and disposed of. The question of usage of waggons or carts is still a disputed point amongst the farmers; they say waggons are best on hillsides. They probably are better than the carts with head and tail ladders; but in our opinion nothing is so good in carting corn of any sort as the low-set harvest frames or skeleton carts, as they are easier to load and unload, and not so likely for the loads to fall off going to and fro.

WORK ON THE HOME FARM.

Horse Labour will consist principally of carting the crops of pulse, grain, and second-cutting clover to stack; there will be, of course, short intervals of tillage, such as preparing the land for stubble turnips, mustard, or rape, as may be required, according to soil and the rotation of management. We will, however, take this

occasion of referring to other animal power for tillage of the land, and allude to the working of oxen, although it is notorious that steam power on the larger farms occupies the attention of farmers entirely as supplementary power to that of horses, and very properly so. We can well recollect the time in our business when steam power was not available as it is at present; we cannot therefore entirely ignore the use of oxen as a supplementary power in tillage in the autumn portion of the year. This brings us to the point of how the extra power can best be obtained, as there are certain circumstances existing in almost every district which may prevent the application of steam power, with the customary advantages attaching to it. In such cases we therefore recommend that oxen may be used with advantage. The best sort of animals for working on the land are the Sussex and North Devon breeds; sometimes, however, we have known Shorthorns used, but the Sussex breeds are strong, powerful, and good-tempered animals, easily broken in and inured to work. The same may be said of the Devons, except that they are not so powerful; but the Shorthorns are not always to be depended upon as to temper, besides which they are more commonly fattened at an early age.

The plan we propose is to purchase on the eve of harvest, say about July 20th, three oxen which have been broken to the collar for every 100 acres of arable land a farm may contain, and continue them in work attached to the scarifier during the whole time of harvest after the first clearance of corn, and until the time for wheat-sowing arrives, up to which time, the horses of the farm having assisted the oxen in autumn tillage, the work will be in a forward state, and the oxen will then assist the horses in helping forward the wheat season. After the wheat-sowing is completed the oxen and horses may join in the work of fallow-ploughing all the land which had been previously autumn-tilled and intended for root crops the following season. The work will then be forward enough to dispense with the services of one horse upon every 100 acres, or in other words to employ three horses instead of four as usual. The result of this scheme of cultivation is that except by the use of steam power the land will be more forward than by any other means, and at a less cost than by employing the usual number of horses during the year.

To make this plan profitable we propose that the oxen shall be fed during the period of work, say four months, at the same cost in food as the horses; three oxen will then cost the same in keeping as one horse for the twelve months, and when fed in this liberal manner they will not only be strong in their work but will improve in value from 20s. to 30s. each during the four months, whereas the horse during the twelve months would have depreciated in value from £3 10s. to £4. The advantages to be obtained from this mode of proceeding are obvious. The root land will be all tilled in the autumn, and done at moderate cost; and when the oxen have done the work assigned them they will be in improved condition, and will pay as much as any steers that can be bought, to be put into the boxes to fatten off at the end of twenty-one weeks from the time of completing the work of tillage.

Hand Labour will now be fully employed in the harvest field and stacking the corn; there may, however, be intervals of damp weather when the men may be employed in hoeing late turnips and the women in singling the roots behind the hoers. Hedge and border trimming will also be done at odd times, when harvest work is delayed. The shepherd can seldom find time to do any harvest work, as he will usually be fully employed with his flock in various ways. The newly-purchased lambs will have to be shorn before the end of the month, and if this to some persons is a new idea we recommend them from our own experience to try one half of the lambs shorn and the other half remaining in their wool. Let them all be kept together and fed alike until February or March, and sold at the same time; it will then prove the advantage or otherwise of shearing the lambs. The herdsman must now look to his yearling-off heifers, and have a well-bred young bull running with them in the meadows every day, in order that they may bring their first calves in the May month. Whilst the heifers are feeding the meadows at daytime, it is, however, a much safer plan to remove them at night time to lie in a dry pasture or on to arable lea ground, as they are very apt to suffer from "quarter evil" when the meadows are situated below the fog level if allowed to remain at night time, because we often get a white frost in such meadows.

CHESHUNT AND WALTHAM ABBEY POULTRY SHOW.

THIS was held on August 8th, when the following prizes were awarded:—

POULTRY—**DORKINGS**.—*Cock*.—1, E. Snell. 2, A. J. Page. *Hen*.—1, H. C. Fellowes. 2, E. Snell. **COCHINS**.—*Cock*.—Cup and 2, Lady Gwydyr. 3, Mrs. Breeze. *Hen*.—1 and 2, Lady Gwydyr. 3, A. Todd. **BRAHMAS**.—*Dark*.—*Cock*.—1, L. C. C. R. Norris. 2, Mrs. Breeze. *Hen*.—1, L. C. C. R. Norris. 2, Dr. Holmes. *Light*.—*Cock*.—1, P. Haines. 2, Lady Gwydyr. *Hen*.—1, P. Haines. 2, W. Howard. 3, Lady Gwydyr. **SPANISH**.—*Cock*.—1, R. Newbitt. 2, Schelp. *Hen*.—1, J. Woods. 2, W. D. Frosser. **GAME**.—*Black or Brown Red*.—*Cock*.—1, H. E. Martin. 2, J. Colgrove. *Hen*.—1, E. Winwood. 2, T. D. B. Rawlins. *Any other variety*.—1, J. Colgrove. 2, H. E. Martin. **HAMBURGS**.—*Golden-spangled*.—1, S. R. Harris. 2, J. Ashworth. *Silver-spangled*.—1, J. Ashworth. 2, R. Newbitt. *Golden-pencilled*.—1, J. Ashworth. 2, J. T. Cable. *Silver-pencilled*.—1, E. Snell. 2, J. Ashworth. **HODDANS**.—1, C. W. Gibbs. 2,

E. Snell. **ANY OTHER FRENCH**.—1, C. W. Gibbs. 2, J. W. Hibbert. **POLANDS**.—1, T. Norwood. 2, G. W. Boothby. **LEGHORNS**.—1, C. W. Gibbs. 2, Bradbury Bros. **BANTAMS**.—*Black Red*.—1, W. F. Entwistle. 2, T. Ponting. *Brown Red*.—1 and 2, W. F. Entwistle. *Any other variety*.—1, Rev. F. Tearle. 2, T. F. Phelps. 3, E. Snell. **ANY OTHER VARIETY**.—1, H. Pickles. 2, J. Ashworth. **DUCKS**.—1 and 2, E. Snell. **SELLING CLASS**.—*Cock*.—1, Lady Gwydyr. 2, Mrs. Breeze. 3, R. Newbitt. *Hen*.—1 and 2, J. A. Hicks. 3, Schelp. **PIGEONS**.—**CARRIERS**.—*Cock*.—Cup and 3, J. Baker. 2, R. A. Pratt. *Hen*.—1, J. Baker. 2, J. H. Smith. 3, R. A. Pratt. **POUTERS**.—1 and 2, J. Baker. **TUMBLERS**.—*Short-faced*.—1, J. M. Braid. 2, J. Baker. *Not Short-faced*.—1, H. W. Bruno. 2, J. Barnes. **OWLS**.—*English*.—1 and 2, J. Baker. **FANTAILS**.—1, J. F. Lovesidge. 2, Miss A. E. Warhurst. **TURBITS**.—*Blue or Silver*.—1, G. Webster. 2, J. Baker. *Any other colour*.—1, G. Webster. 2, J. Baker. **ANY WERPS**.—1, T. S. Kemp. 2, G. F. Gowing. **DRAGONS**.—*Blue or Silver*.—1, J. H. Smith. 2, Lush, jun. *Any other variety*.—1, J. Atkins. 2, J. Baker. **ANY OTHER VARIETY**.—1 and 2, J. Baker. **SELLING CLASS**.—1, H. Dacey. 2, J. Barnes. 3, R. A. Pratt.

JUDGES.—*Poultry*: Mr. J. Long, Hitchin. *Pigeons*: Mr. P. H. Jones, Fulham.

AN INTERNATIONAL POULTRY SHOW.

It is often said, and we believe with much truth, that we are apt in England to "lock the stable door after the horse has been stolen." Any public, especially any international undertaking, is sure with us to be got up on a grand scale, and as sure to be carried out in no niggardly spirit; still it very frequently happens that many small matters of detail, which may in themselves seem trivial and unimportant, are not duly considered beforehand, and consequently some undertaking which apparently goes off with *éclat* does not prove really satisfactory to those particularly and intimately interested in it; and behind the scenes it is said, "What a pity it is that such and such a matter was not before thought of, for had it been otherwise the success of the affair might have been real, and not seeming only." This has been the case in international meetings of various kinds where courtesy prevented exposure. All the world knows by this time that a grand agricultural show is to be held in London next year, and that there is every prospect of its being an international one; it is also rumoured, and we have reason to think the rumours not unfounded, that a show of poultry will be included in the programme. This being the case we shall endeavour beforehand, and not when it is too late, to point out some of the conditions which to us appear essential for the success of an international show. It would be affectation to conceal the fact that most of those are suggested to us by the experience of the late Paris Show. That that Show was not a success and was not well managed can no longer be a secret. Indignant letters of complaint about it daily reach us, and the columns of one of our contemporaries have been filled with them. As far as we know the most successful English exhibitors, who might naturally be biassed in its favour, were not satisfied, and would gladly have sacrificed all honours and prizes not to have sent. The English judges were highly annoyed at many things both during the Show and since; and, lastly, the loss of birds through death by starvation and fatigue on the return journey seems to have been simply enormous. Did exhibitions ordinarily entail a tithe of this suffering on the poor creatures exhibited nothing would ever induce us again to exhibit a living thing; and had the whole taken place on this side of the Channel there would have been a host of defendants in the Courts, with the Society for the Prevention of Cruelty to Animals as plaintiffs. All this can now only be regretted, not avoided; timely warning, however, and reasonable forethought may prevent the chance of such a disaster in this country.

We will begin with the very beginning—viz., the schedule of prizes. A schedule for a show in which foreigners are invited to compete should not be drawn up without consultation with eminent fanciers of the nations most likely to enter. Nations have their tastes and prejudices as well as individuals, and if these are not previously taken into consideration differences or disappointment will infallibly ensue. It would be truly disheartening and unsatisfactory to a Frenchman or a Belgian to be told "Your bird is in its way by far the finest in the class, but it is not quite in accordance with English taste, and consequently it is not noticed." Where national tastes are utterly different, or where the same names signify birds with totally different characteristics in different countries, matters can alone be satisfactorily arranged by previous consultation between connoisseurs of the various nations to be represented. Then as to the translation of the schedule when once drawn up, it is absolutely necessary that this should be done by people who have some slight special knowledge of the subject. For instance, in the Paris schedule, or rather its English translation, a class was devoted to Hamburgs. Naturally English fanciers sent specimens of all five kinds recognised here as Hamburgs; but in French Hamburgs include but two of these five, while two others should have been in the Any-other-class limbo, and the fifth, Blacks, should not have been sent at all, at least if their owners did not wish to hear their pets run down as mongrels.

Again, the question of judges is an important one. It seems but natural that in an international show various nations should be represented among those who award the prizes. Still there are practically great difficulties in carrying out this theory from the deadlock which occurs where national tastes are opposed; and

even supposing the question to be decided in the affirmative, a further doubt arises as to whether particular classes should be given to the foreign judges, or whether they should be on a mixed board with those of the country. Much may be said on both sides; but whichever course, however, be adopted, we should strongly advise that the names of those to adjudicate upon each class, or the exact composition of any board of judges, should in fairness be announced before the entries close.

Next to the question of the schedule and of the judges comes that of the conveyance of the birds to and from the show and of their treatment during it. Whenever any general invitation is given to foreigners, as a matter of national courtesy every effort should be made to render their journey or the transit of their property as easy as possible. The Paris Exhibition being a State affair, such matters were probably more easy to arrange than they would be when any private society, however eminent, invited competition. Still, if the cost of foreign exhibits cannot be entirely defrayed, at least it might be so arranged as to occasion no unreasonable cost and as little trouble as possible to the exhibitors. English exhibitors were struck by the liberality of the provision in the French schedule that all specimens should be conveyed free of cost both ways between the frontier and the Exhibition; but in practice this regulation proved most delusive, for firstly the railway officials were so ignorant of it that some exhibitors had notwithstanding to pay high rates, and also the free pass was alone for such trains that the unfortunate birds and their attendants had to start from London one whole week before the Show began, and the return journey was performed in an equally leisurely fashion, so that to our own knowledge dozens of beautiful birds succumbed on it to hunger and fatigue, or directly after it to exhaustion. It would be easy for whatever society wishes to have a really international meeting to arrange special times at which all birds should be sent to two or three named foreign ports, and to send men to such ports to receive them and bring them over with all expedition.

Then as to their treatment while at the show. Not only should this be scrupulously careful, but it should be made perfectly clear to exhibitors beforehand what food and accommodation will be provided. If the French, or Italian, or Belgian mode of feeding is different to our own let this be discovered, and let foreign exhibitors be invited to send proper food with their birds. On the arrival of the English birds in Paris not only was no food at all procurable, but no drinking vessels were provided, and some of the English attendants had to go out to buy the latter.

These are broadly some of the most obvious and important considerations for the promoters of any international show. We do not here advocate the holding of such a show, but if one be undertaken, as seems possible, for our national credit's sake let it be well carried out. We have for weeks, amid many reports which annoyed and astonished us, refrained from criticising in a captious manner the late Paris arrangements; but at least their utter breakdown in a country generally celebrated for its organisation may serve as a grave warning to us as a nation to attempt nothing of the kind without previously counting the cost, and if we do attempt it to leave no matters of detail, however seemingly unimportant, to the chance of the hour.—C.

VARIETIES.

SOME substantial donations recently made to the fund for holding a great agricultural Exhibition in London next year bring the total amount up to £7000. The Show is to be under the auspices of the Royal Agricultural Society, and under the presidency of H.R.H. the Prince of Wales.

— FOR the Winchester Poultry, Dog, and Flower Show, on the 14th and 15th inst., there are entries of Pigeons and poultry 350, and of dogs 180.

— WE have for some time been surprised to see no advertisement of an Oxford Poultry and Pigeon Show this year. We regret to learn that there is much chance of this popular meeting falling through from the unwillingness of the members of the Town Council to allow it to be held, as previously, in the municipal buildings.

— AUGUST 12th is, says the *Agricultural Gazette*, about the last day of the year upon which turnips may be sown with a fair prospect of succeeding. To persist in sowing later entails a considerable expense per acre in seed, labour, and manure, and the result is often most miserable. We can scarcely hope to see the young turnips above the surface before the 20th of the month, and before they are six weeks old cold and even frosty nights may sadly interfere with their development. Another objection to late sowing is often to be found in the condition of the land, for in most cases it is advisable to clean stubbles from couch rather than to hastily plant them with a catch crop, such as late turnips. Certainly in seasons such as 1868, 1870, and 1874, when roots have failed, no time should be lost in occupying corn stubbles with late turnips, and we would be loth to fix a date at which to discontinue sowing. But the present season has been peculiarly kind to roots. There is a good prospect of winter keep, not only in the

form of Swedes and turnips, but also in hay, and the better policy will be that of cleansing land from weeds rather than attempting to raise a still greater quantity of fodder.

— THE storms of the last few days, says the *Farmers' Gazette*, although beneficial to the pastures and root crops, which very much required rain, have kept the harvest work back, and we fear in many districts have injured the crops. Should the heavy rains continue the consequences will be serious, but should fine weather now make its appearance, perhaps nearly as much good as harm will have been caused. There is every prospect of a good root crop, and, combined with the abundant and well-got hay crop, the prospect for winter keep is exceedingly favourable. We only now require a month's fine weather for harvest work, and the agricultural year, we believe, will be completed in a satisfactory manner. Although at one time the prospect was gloomy and the situation, in the opinion of some, almost desperate, it has so much improved that, with the return of fine weather, it will probably prove the best season we have experienced for several years past.

— EXTRAORDINARY PIGEON FLIGHT FROM READING TO BRUSSELS.—Mr. J. W. Barker, of 18, Rupert Street, New Town, sends us, says the *Reading Mercury*, particulars of an extraordinary Pigeon fly from Reading to Brussels. He writes:—In Belgium Pigeon flying is, as is well known, a national pastime, and one of the most successful at this amusement is Mr. Barker, an Englishman. Last week he sent me some of his young Pigeons, and with them sent five adults to be liberated to fly back to Brussels. They reached me at Reading quite safely about mid-day on Thursday, the 25th ult., and in the evening were minutely inspected by several members of the Reading Ornithological Society, and each bird marked with the Society's official stamp. On Friday morning at ten o'clock at the rear of the biscuit factory I gave the five birds their liberty in the presence of several friends. On leaving the basket they immediately dashed away without any hesitation, and at a great speed, in a straight line towards home. In the evening I received a telegram stating that all the birds were home before four o'clock, and giving the stamp on their wings. What makes this flight the more extraordinary is the fact that the birds had been tossed only twice in this direction before coming to Reading, and this was at Poperinghe, about forty miles this side at Brussels; they have, however, had considerable experience in other directions. The birds that accomplished this surprising performance have been returned to me from Brussels.

HARVEST FROM FIRST-CROSS ITALIANS IN STEWARTON HIVES.

A PARISH MINISTER, a careful apiarist of our neighbourhood, writes as follows on 7th inst.:—"I write to say that I have now taken off 309 lbs. of first-class super honey in all, and that I have still ten boxes to remove. I estimate the contents of these boxes as at least 120 lbs., so that my super harvest will amount to 430 lbs. in all from eight hives. I shall besides have a great deal of run honey in September. You have a right to know this, for it is certainly to your very kind instructions I am indebted for my success. Two of my large swarms (first-cross) flew away during the summer. Mrs. F. has got the one, and it is her best stock for next year, and I saw the other in a large old tree yesterday at S—, near K—. The first-crosses are undoubtedly the bees to breed; but I see, now that the season is dull, that the black bees are doing nothing, but that wherever there is Ligurian blood at all the hive is active and adding to its stores."

After such a deplorable season as last good returns are cheering. Although the present hot summer will place the honey yield above an average, still I am afraid ultimate returns will not rival the great honey season of 1868, nor yet that late but wonderful bee year 1876.—A REXFREWSHIRE BEE-KEEPER.

THE EXHIBITION OF BEES.

SOUTH KENSINGTON, AUGUST 6TH.

ALL honour is due to those who are so strenuously endeavouring to introduce the modern and humane system of treating the industrious bee, and who in spite of prejudice, obstinacy, and ignorance are year by year bringing forward the results of their labours. The British Bee-keepers' Association has already held its exhibitions at the Crystal Palace and Alexandra Park, and this year it has brought together the bees, bee furniture, and all the various items connected with them at South Kensington under the distinguished patronage of a lady who is ever ready to help forward in every good work, whether it be for the benefit of her fellow creatures or for the good of the animal creation—the Baroness Burdett Coutts. The day was somewhat an unfortunate fixture, for as the railway companies delivered no goods on the Monday, being bank holiday, many of the exhibits were very late, and consequently the work of judging, &c., could not be proceeded with as early as had been intended; but there was a great muster of apiarists from all parts, much enthusiasm was displayed, and much useful information given. Instead, however, of going into

minute details of each department as to who gained prizes, &c., we prefer giving a few general observations as to the most salient points of the Exhibition.

We were particularly struck with the almost universal adoption of modern bar-frame hives. Not only has the straw skep disappeared from the apirians' catalogue, but the modifications of it, as in the old Woodbury, have also vanished, and wood is now the universal material of which hives are made. Improvements on these are taking place every year, and in the Stewarton, the Philadelphia (Messrs. Neighbour), the Standard (Abbott), Lee's and others we seem to have attained all that is needed. Each year has witnessed some improvement, but after all Abbott's, which again took the first prize, leaves nothing to be desired. The wire pin to the boxes has been superseded by the broad shoulder, making it much firmer, and various internal improvements have been added. An ingenious plan of shutting off the bees, so as to prevent swarming, by a zinc perforated frame seemed to be very ingenious, for a very general complaint this year was that the bees would swarm. Very few large supers were exhibited, and super honey was by no means plentiful; and this is one of the things which confirm cottagers in their prejudices.

Another prominent point was the universal use of the quilt. When Mr. Abbott introduced it some years ago it was denounced by some influential bee-masters as an American invention of no use whatever, yet now we find it in nearly every hive, and experience has only confirmed the good opinion expressed concerning it and suggested improvements. Formerly a piece of carpeting was used, but it was found that the bees disliked the woollen material and picked it to pieces, making a mess with it, as they will do with tape if the combs be tied in with it at any time. Hence the best fabric for putting next to the bars is the hair cloth which is used for covering the strainers used in kitchens. It is hard and yet porous. On this may be placed carpeting or any other woollen material, such as house flannel, which will keep the hives warm during the winter. It is very convenient, too, for examining the hives at any time; and when they have to be fed a hole is made in the centre, on which the stand for holding the feeding bottle is placed.

Then again there was a very general use of the zinc adapters, by which when supers are placed on the hives the bees have access to them through the perforations in the zinc, which are of such a size that the workers can alone get up, the drones and the queen being unable to get through. Latterly the oblong perforations seem to be more in vogue, but they hardly seem to be so effective as the round. There seems to be more possibility of the queen and drones getting through, and moreover it does not rub off the pollen as the round does; but it must be noted that it does sometimes happen that the bees will not return, and I have found in one of my supers this year a good quantity of dead bees. Hence some apirians adopt the plan of cutting a small hole in the super to let the bees go out if they like and carry out their dead. Why this should happen we are at a loss to conjecture, for in other hives they work up and down most freely and seem to find no difficulty; but we know how stupidly bees when they get into a greenhouse will persist in flying up and down the glass and eventually killing themselves, although the sash in the very next division may be wide open; but these exceptional cases do not detract from the great usefulness of the zinc adapter.

Equally general is the use now of the sectional supers; these were shown by Messrs. Abbott, Lee, and Horne, Mr. Lee taking the prize for the best and cheapest. These supers are very valuable, containing from 1 lb. to 2 lbs. of comb each, and so presenting comb honey in a saleable form to the public, and thus meeting one of the great drawbacks to bee-farming in this country. There is a vast quantity of trash imported under the name of Narbonne, Californian, and other honey, of which a great portion is little better than syrup, and this is sold so cheaply that home-made honey is not easily got rid of. When people go to Switzerland they are delighted to find *miel en rayon* on the breakfast table, but when they return to England honey in the comb is looked upon as "bilious," or something of that kind, and so refused. Why do not our large pauper schools use it for the children instead of butter? and if some eminent physician would only act as a bell wether and proclaim honey in the comb to be an excellent thing for the complexion the family would soon follow, and we should find it then on every breakfast table throughout the country. These sectional supers are excellent for the purpose of sale. Many persons would hesitate to buy supers of 20 lbs. or 30 lbs., but these handy little boxes are just the thing to take home without any bother, and I have no doubt they are destined to supersede all others.

It was noticeable, too, that all the toy adjuncts of bee-keeping have vanished. There are now no elaborate bee houses with first, second, and third storeys; no pagoda-like structures suggestive of the very essence of cockneyism. All is now utilitarian, but not at the expense of neatness. Nothing can be neater than the hives of Messrs. Abbott, Lee, and others, but it is at once seen that the object is use not ornament; and as they are now made with moveable covers each one can stand by itself protected from the weather, and thus not so exposed to the depredations of wax eating spiders, mice, &c., as when they are in houses.

In the tent the manipulation of bees according to the new method was fully explained by Mr. John Hunter, while Mr. Abbott and other bee-masters showed how easily bees were managed. Driving, uniting, transferring, and all the various methods adopted by modern bee-masters were shown, much to the astonishment of the visitors, many of whom evidently seemed to think that there was some special means adopted to prevent the bees from stinging. Ligurian and British bees were also shown, and an admirable observatory hive by Mr. Brice Wilson attracted general observation. There were two exhibits deserving especial notice; one a Portuguese hive, exhibited by the Rev. J. F. Scott, an experienced bee-master, and which is of the same kind as that described by Virgil in the "Georgics," and some honeycomb made by bees in the Strand—partly artificially fed, partly gathered from the flowers on the Embankment. Altogether the Show was a great success, so much so that it is, we believe, in contemplation to repeat it next year in the same place. We should be sorry to add a word to damp the ardour of our friends, but as yet do not see that we have made any inroad on the cottagers, who do not appear to have abandoned the old straw skep and the sulphur pit; as yet it is the few who have seen the advantage of the modern system.

DRIVEN BEES AND SUGAR-FED STOCKS.

"H. W. S." asks, "When is the best time to drive the bees of old stocks with a view to take their honey?" As many other correspondents have been of late asking questions on the subject of driving bees it may be well if we take up the subject in a general way, and go over the ground in these notes.

For ten years we have not lost an opportunity of commending sugar-fed stocks of bees, and now we have the satisfaction of knowing that our commendations have induced many working men to gather together the condemned bees of their neighbourhoods by first driving and hiving them, and then feeding them into stocks. Many of the men who thus commenced bee-keeping are in the van of the advancing hosts of British bee-keepers. Experience, which is the shortest way to knowledge and success, has put them in the front rank of practical apirians and made them what they are. Many of our readers who have not yet driven bees, or united swarms, or fed them into stocks, have only to begin with a will, for all who do so succeed beyond their expectations.

In answer to "H. W. S.," who wants to know the best time to drive bees from old stocks, we have to say that nobody can answer the question with any degree of certainty, for seasons and districts differ much, as well as systems of management. For instance, bees on the moors in August gather honey fast and set thousands of eggs, whereas those not on the heather generally eat more honey than they gather in August, kill their drones, and cease to breed for the season. If honey is the first and only consideration the best time to drive bees is when they begin to eat more honey than they gather—in other words, when their hives become lighter. Bees on the clover, generally speaking, begin to lose weight early in August, and on the moors early in September. But the question of brood and its condition in hives has to be considered, as it is important, for the bees only that are hatched in autumn survive the winter, and early driving may destroy much unhatched brood. When it is meant to feed the driven bees into stocks it should be known and well understood that early driving is advantageous to the swarms, for in August they build combs faster and breed more readily and abundantly than they do in September and October. It is easy to get driven bees by artificial feeding to build combs and fill them with brood in the warm month of August when pollen is abundant. As autumn advances the disposition to build combs and hatch brood becomes less, and hence the greater difficulty of creating good stocks late in the season. Bee-keepers, however, possessing a fair share of shift and thrift can surmount the greatest difficulties of management. If hives marked for honey be found full of bees and brood at the commencement of August four-fifths of the bees could be driven with the queens from each of them into empty hives, and one-fifth left in them to hatch the brood; thus stocks could be created in August, and the brood of the honey hives hatched by the remaining bees. The removal of the swarms from the honey hives would save much of the honey from being eaten, for bees consume a great deal in August. In our practice we do not follow this plan, though we are miserly in our treatment of autumn brood. In taking honey we generally drive several hives at the same time, and drive the bees wholly out of the honey hives. All their combs with brood in them are speedily and carefully cut out and placed in an inverted empty hive, some on their edges, some on their broadsides, some one way, and some another, but kept asunder by little bits of wood, so that bees can move and be hatched amongst them; then we throw a swarm or half a swarm amongst them to hatch the brood, and thus a large and invaluable stock of young bees is got from refuse combs to enrich stocks for winter and spring; a board, of course, is placed over the combs and bees in the inverted hive till all the brood is hatched. The reader will see at once that by this treatment there is no destruction of life, no

sacrifice of brood, and no waste of honey—everything is husbanded to the greatest advantage; but the time of driving bees or doing this work must be left to the bee-keeper himself, and be determined by circumstances.

Now a word about sugar-fed stocks. Some fifty years ago I was interested by an experiment with a swarm driven from a straw hive in the month of September. It was put into an empty hive and fed on treacle alone—not golden syrup but black molasses. It half filled the hive with combs, kept its bees well through the winter, and became a good stock. The knowledge of the discovery that bees can build combs rapidly from sugar and be healthy and live to a good old age while eating nothing else, cannot be too widely circulated. The experience of every season gives additional proof of the value of sugar-fed stocks. We prefer them to swarm hives or old stocks. Their combs are young and sweet, and while being erected the centre ones are filled with brood, and thus almost every cell in six or seven of the centre combs yields a young bee in August or September. We invariably find on examination of our stocks in February or March that those treated by sugar-feeding in the preceding autumn are comparatively strong in population. They thrive better, too, than older ones, for their combs are not clogged and cloyed with pollen. We leave it to the doctors to tell us how it is that bees gather in Great Britain more pollen than they require, but we notice the fact that the superabundance found in old combs is a great obstruction to the bees themselves and a great nuisance to bee-masters. We have seen more than three cells out of five in the centres of hives rendered useless by pollen stored in them. From another cause, too, old combs are objectionable. Their cell walls become thick by the skins or pellicles which young bees leave behind them. Every bee hatched in a cell leaves a coat behind it, which becomes a part of the cell. Only fancy ten such coats being left in every open cell in the centre of hives every two years, and that is a moderate calculation of five hatches of brood every year.

Much is being said by a certain school of apiarians about the wisdom and economy of preserving old combs and saving the bees from building new ones. We honestly question both the wisdom and the economy of such practices. Take an empty 16-inch bar-frame hive and put a swarm of thirty thousand bees (or 6 lbs. weight) into it. Give it 5s. worth of sugar, and the bees will fill it with combs and brood. Forget the 10 or 20 lbs. of honey in the combs whence the bees were taken, and compare this sugar-fed stock with any swarm or stock hive near it. Though it cost only 5s. to create it, an experienced and competent judge would probably value it at 10s. more than any bar-frames filled in the usual way.

This morning a working man came from Partington, a village five miles distant, to see my bees. Some hives were turned up for him to see, amongst these three sugar-fed stocks in course of creation, which greatly astonished him. He had never seen or heard of such a thing before. He said he had four hives, and he left me saying if he treated his bees in that manner he would get 1 cwt. of honey from them without reducing the number of his stocks.

To "H. W. S." and others who wish to take the bees from the honey hives and feed them into stocks, let me say in conclusion that size of the swarms should determine the size of the hives in which they are to be fed. There is a danger of using hives too large for this work. If hives are not nearly filled with combs in autumn there is the probability, I might say the certainty, of having too much drone comb built in spring, and the less drone comb we have in stock hives the better, as drones eat honey and gather none. Five pounds of bees put into a 16-inch hive, and fed with 20 lbs. of sugar made into good syrup, will nearly fill it with combs and brood. The warmer the weather is, as we have already seen, the faster the combs are built. All the syrup should be given to the bees in fourteen or sixteen days.

The easiest and best way of giving it to them is by placing a flower-pot saucer or other dish on the floor-board, with chips of wood in it, and filling it every night through a 9-inch length of half-inch gas pipe running through the hive into the dish.—A. PETTIGREW.

BEEES THIS SEASON.

WOULD Mr. Briscoe kindly give a little further explanation about his Stewarton system? I take it a Stewarton consists of three stock boxes, but that the three are seldom used the first season, as he states that he has only two used with the swarm he has hived this season, but has substituted supers for the third stock box. What I wish principally to know is, Does he drive the bees into one stock box at the end of the season and take away the other two, as of course the bees would have plenty of room in one box when the honey season is ended? Also, Is it the lowestmost box he retains and takes away the upper one? as of course the largest quantity of honey would be in them, and if there is not enough in the lower one for the winter's supply they can easily be fed up to it. I think any frame hives can be made to work on the same system as well as the Stewartons.

Referring to his honey harvest, I took last week from a stock of black bees in a standard hive 54 lbs. of honeycomb in supers, and though I had no zinc or adapting board of any kind between the stock box and the supers there were not two dozen cells in the lot tainted, and the same bees are now filling another super I put on when I took the others off—not bad for the natives. This is my second year with Ligurians, and they have not beaten the blacks yet, but I think they breed faster and swarm more; but this is not much advantage if you can only keep a certain number of stocks; however, I will continue giving both fair trials before I fall out with either.

Referring to the Stewartons, are not two stock boxes quite sufficient without three, and when the two are full add the supers?—H. J.

OUR LETTER BOX.

RENEWING A FIELD OF OLD LUCERNE (*G. R. P., a Subscriber*).—If this is a piece of land where spade culture can be available, and the old lucerne has died off and a turf of sown grass left, it would be better to cut the turf off with a spade about 1½ inch in depth, and burn into ashes during the present autumn, spread the ashes with a fair dressing of yard dung or town manure in addition, and dig-in the same deeply, and allow the land to remain during the winter and take the changes of weather; in the spring during the month of April shallow dig and make the land fine, and drill at 12 or 14 inches apart 20 lbs. per acre of seed, and apply with the seed about 4 cwt. of bone superphosphate per acre; this manure will soon drive the lucerne up out of the way of the weeds, but as soon as the lucerne can be distinguished in the rows let the ground be hand-hoed between them, and the weeds in the rows hand-pulled. If it is best adapted for horse culture let the land be rafter-ploughed, scarified across, and the old turf burnt and the ashes spread, together with a dressing of 3 cwt. of Peruvian guano per acre, and ploughed with a deep furrow, and allow the land to lay during the winter and take the frost, &c.; in the spring drag, roll, and harrow, and obtain a fine tilth, and without ploughing again drill in the month of April the same quantity of seed and manure per acre as above stated. The object of burying the ashes and manure deep in the soil is to prevent its action upon the growth of surface weeds, and to secure its action upon the deep-rooting plants of lucerne. We cannot advise the growth of a crop of potatoes, as it involves the loss of a year's growth of the lucerne; if, however, the land is very foul with couch it would be well to take a crop of potatoes, which should have a dressing of dung or guano, and after lifting the potatoes then drill with lucerne and the manure as above stated. We do not, however, recommend the drilling of lucerne the same season, unless the potatoes were an early sort and the land cleared both of crop and weeds at the earliest period. We advise wide drilling because the space between the rows should be hand-hoed or horse-hoed every autumn, and if liquid manure is not available apply 2 cwt. of nitrate of soda per acre in April every year.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
August	Barom-eter at 32° and Sea Level.	Hygrome-ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem-perature.		Radiation Temperature.		
		Dry.	Wet.			Max.	Min.	In sun.	On grass	
We. 7	29.822	71.2	deg.	S.W.	deg.	deg.	deg.	deg.	In.	
Th. 8	30.040	66.9	62.3	S.W.	64.0	76.6	57.3	127.8	53.6	
Fri. 9	30.142	67.7	61.7	S.	64.1	79.0	53.9	123.0	50.2 0.130	
Sat. 10	29.714	64.3	62.1	E.S.E.	64.9	70.0	60.4	116.2	57.2 0.180	
Sun. 11	29.830	67.3	60.6	N.W.	64.0	74.3	53.9	121.6	50.3 0.050	
Mo. 12	29.558	64.8	61.7	S.W.	63.2	70.3	59.0	114.0	56.0 0.130	
Tu. 13	29.697	62.0	58.1	S.S.W.	62.9	70.2	54.0	115.0	51.1 0.310	
Means	29.830	66.3	61.6		63.9	73.6	56.8	119.9	53.5 0.090	

REMARKS.

- 7th.—Fine day on the whole, although rather cloudy, with appearance of rain about noon.
8th.—Cloudy in the first part of morning, but afterwards fine and bright.
9th.—Fine morning, but rather hazy afternoon; brighter evening, cloudy.
10th.—Very wet in morning; fine bright afternoon; heavy rain began again in evening about 8.30, with one flash of lightning.
11th.—Fine bright morning, though occasionally cloudy; rather dull afternoon; fair evening.
12th.—Alternate heavy showers and bright sun all day; thunder at 0.35 P.M., and again between 2 and 3 P.M.; fine evening.
13th.—Heavy showers at 11 A.M. and 0.20 P.M.; fine afternoon; wet evening and heavy rain in night.

Mean barometer rather lower than last week. All thermometric mean values above those of last week, except the maximum temperature in shade and in sun, which were both about 1° below.—G. J. SIMONS.

COVENT GARDEN MARKET.—AUGUST 14.

TRADE very quiet, and quotations unaltered.

FRUIT.

		s. d.	s. d.			s. d.	s. d.
Apples.....	½ sieve	2	0 to 4	Melons.....	each	4	0 to 10
Apricots.....	dozen	1	0 3	Nectarines.....	dozen	4	0 12
Cherries.....	½ lb	0	6 1	Oranges.....	½ 100	8	0 16
Chestnuts.....	bushel	10	0 20	Peaches.....	dozen	2	0 12
Currants.....	½ sieve	3	6 4	Pears, kitchen.....	dozen	0	0 0
Black.....	½ sieve	6	0 6	dessert.....	dozen	0	0 0
Figs.....	dozen	2	0 4	Pine Apples.....	½ lb.	3	0 6
Filberts.....	½ lb.	0	0 0	Plums.....	½ sieve	3	6 5
Cobs.....	½ lb	0	0 0	Raspberries.....	½ lb.	0	6 1
Gooseberries.....	quart	0	6 0	Strawberries.....	½ lb.	0	0 0
Grapes, hothouse	½ lb	1	0 6	Walnuts.....	bushel	5	0 8
Lemons.....	½ 100	6	0 10	ditto.....	½ 100	0	0 0

WEEKLY CALENDAR.

Day of Month	Day of Week	AUGUST 22—23, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.	
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.				
22	TH	Reading and Saltburn-on-Sea Shows.	71.5	49.9	60.2	4	58	7	7	10	33	3	33	24	2	44	234
23	F	Exeter and Sevenoaks Shows.	72.0	48.9	60.4	5	0	7	5	11	36	4	25	25	2	28	235
24	S	Shotley Bridge Show.	71.6	47.9	58.9	5	1	7	3	morn.	5	13	26	2	13	236	
25	SUN	10 SUNDAY AFTER TRINITY.	71.5	50.3	60.4	5	3	7	1	0	52	5	44	27	1	57	237
26	M	Prince Albert born, 1819.	72.6	48.7	60.1	5	5	6	59	2	8	6	9	28	1	40	238
27	TU	Banbury Show.	73.3	49.3	61.3	5	6	6	57	3	48	6	29	29	1	23	239
28	W	St. Peter's (Ramsgate) and Becket Shows.	73.1	49.5	61.3	5	8	6	54	5	18	6	45	30	1	6	240

From observations taken near London during forty-three years, the average day temperature of the week is 72.2°; and its night temperature 49.2°.

METROPOLITAN ROSE SHOWS OF 1878— A RETROSPECT.



O apology is needed to write on the merits or demerits of the various Roses as seen exhibited during any season, for there are numerous readers always eager to gather any information respecting their favourite flowers. Sir Walter Scott has somewhere written that everyone could learn something even from the humblest working man. I therefore must say the same as your able correspondent said last week on fragrant Roses, that "my opinions are noted down and are given for what they are worth."

Before commencing to review the cut blooms exhibited during June and July I cannot pass by my old favourites, Roses in pots. By a little manipulation and extra attention under glass the season for Roses can be greatly prolonged, and several of our shy bloomers are to be had in great beauty when the plants are grown in pots. Roses are exhibited in pots from 6-inch pots (32's) to a No. 1, or the largest size manufactured. Plants are produced carrying from half a dozen blooms to nearly three hundred. Great skill is displayed both in the training of the huge specimens referred to and in the growing and keeping them in robust health year after year; but the smaller plants, in my opinion, give the best and largest blooms.

Roses grown in pots are generally to be had in bloom during March, April, and May; a few may be retarded to unite the indoor-grown blooms with those grown outside; but these retarded plants generally produce Roses wanting in form and beauty, unless it be those that are potted from the open ground in November, wintered behind evergreen hedges with the pots plunged, and the plants not pruned until the ordinary time of pruning the out-of-door Roses. It is from plants thus treated that the fine banks exhibited at the end of June and July are had. Some grand examples of these were shown at Richmond on the 27th of June by Messrs. Paul & Son, Cheshunt, and Messrs. Veitch & Sons from their Coombe Wood nursery. Roses in pots have also been shown well in London this season by Messrs. Veitch and Sons in the months of March and April. An extensive collection was exhibited by Messrs. Paul & Son at the Royal Botanic Society's Show at the end of April, principally grown in 11-inch pots, a size very suitable for exhibition purposes. Both flowers and foliage of these plants were simply magnificent; Madame Willermoz, La France, Marie Finger, and Cheshunt Hybrid were very conspicuous for their size, form, and beauty. The contest between those two great growers Mr. Turner, Slough, and Messrs. Paul and Son in the following month at the Royal Botanic, Crystal Palace, and South Kensington brought out the larger-grown plants: in each case Mr. Turner proved the champion. The enormous and glorious bank arranged at the latter place at the end of May displayed such a sight that has never been seen before.

The collection of Roses grown in 12-inch pots and exhibited by Mr. Turner at the Crystal Palace contained the finest flowers of any exhibited this year; the plants were

simply marvels of perfection, trained close down to the rim of the pot, more after the way that the Pelargonium is exhibited. Plants of this stamp do not take up much space to grow them nor yet to convey them to and from the exhibition. The season for Roses in pots was not one of the very best; the months of January and February were very mild, which caused the plants to break into bud earlier than usual—in fact, all through the season it was a matter of retarding Nature rather than assisting her: hence the magnificent bank referred to of Mr. Turner's, many of the plants of which were intended for Whit-week at Manchester, but were found too forward for that date.

The cut-bloom season of Roses around London commenced with the Royal Horticultural Society's Show at South Kensington on June 18th, quickly followed by the Alexandra Palace Show, the National Rose Society's Show held at the Crystal Palace, the Royal Botanic Show of July 10th; and amongst suburban Shows at Richmond on June 27th, and at Bickley on July 13th. At each and all of these Exhibitions both nurserymen and amateurs contributed largely.

As the weather has much to do with the result of achieving success in growing Roses out of doors it may be well to glance through the season of 1878. January and February were both wet and mild, and by the first and second week in March the unpruned Roses were quite green with young shoots principally broken from the uppermost buds. Now came the time for pruning, which dispensed with all previous growths, and the plants again resumed their natural state. Cold winds and frosty nights followed until the early part of April, but in due time the buds broke strongly and from then until May grew away well. The "knowing ones" predicted a very early Rose season, but the early part of June was characterised by an excessively low temperature and an entire absence of sunshine, which could not fail to retard the swelling of the flower buds and even to injure them in some localities. I recollect reading a meteorological report in a daily paper that on the day before the South Kensington Rose Show the temperature in London was 4° lower than in Iceland. Under such circumstances it was not at all surprising that the entries were not as numerous as we often see them at the early London shows; nevertheless there was a very fair quantity of Roses staged, and some remarkably fine and fresh blooms came from Salisbury, Cheshunt, Slough, Bath, and various other places. Amongst the Salisbury Roses La France was particularly fresh and beautiful, also Marquise de Castellane, Général Jacqueminot, and Marie Baumann. The collections from the late Mr. Keynes' nurseries were without doubt as fine and fresh as any they have exhibited this season; their southern position and light warm soil gave them a great advantage for this date over all other competitors. Several of the comparatively new Roses were very conspicuous in almost every nurseryman's collection, especially Monsieur Gabriel Tournier exhibited of very good form and quality. Mons. E. Y. Teas was also very prominent, and fully maintained the good opinion I formed of it last year; it is also one of the earliest to bloom, but I may here remark that that good old Rose Madame Victor Verdier is always one of the first in the field, and is both constant and free. In

the class for six distinct new Roses of 1876 and 1877 Madame Deverel, Mons. Gabriel Tournier, Mrs. Laxton, Oxonian, Mrs. Baker, and Sultan of Zanzibar formed Mr. Paul's selection, and I say without fear of contradiction that the two varieties raised at Cheshunt were the cream of the collection, for Mrs. Laxton and Sultan of Zanzibar as exhibited were splendid both with regard to shape and colour. I shall be very much surprised if Mrs. Laxton does not make one of our most constant exhibiting varieties. Oxonian, another new English-raised Rose, flowered very early, and its shell-like petals, combined with its great substance, will render it a great favourite. It is also a Rose that is not easily injured by heavy rains. Messrs. Paul & Son staged at this show a richly coloured claret-red bloom of Dr. Hogg, very distinct. All agree that there was a very creditable display at the Alexandra Palace, but unfortunately I was prevented from being present. I am also told that Mons. Gabriel Tournier as shown there was very coarse.

From the 18th to the 25th is exactly seven days, which made a great difference in the mean temperature, and tropical heat had fairly set in. The maximum heat registered in many places on the latter date exceeded 90° in the shade, and the nights were correspondingly hot. Roses that were mere buds in the morning were full-blown at night, and those cut early in the morning for exhibition displayed coarse eyes before there was scarcely time to set them up in their proper positions. Very severely was this felt under canvas tents, and at Richmond the glorious blooms sent by Messrs. Paul & Son and several others from a distance that were obliged to be cut overnight were all overblown before the day was half spent. The only flowers that had anything like a respectable appearance towards afternoon were those which came from Messrs. Veitch & Sons and Messrs. Lee from their Ealing nursery, which were cut very late on the morning of the show. Messrs. Lee exhibited at Richmond a collection of twenty-four La France that were models of perfection, and stood all day unscathed. From these observations I in common with many others would like to solve the problem, When is the best time to cut? My experience is that blooms cut overnight invariably stand better than those cut very early on the morning of the show, especially if they are covered with a very heavy dew; but blooms cut, like the Ealing and Coombe Wood collections after the sun has risen some few hours, will stand a better chance against those cut overnight in times of such exceptional heat. Let anyone stroll along a collection of Roses, say from two to three o'clock in the morning, and he will find numbers of fully open flowers that are simply grand; but if those blooms are cut then and exhibited, and if the day proves hot, nothing but disappointment can follow. Let the same observer also notice an opening bud, and in a very short time if he returns again he will find a fully expanded flower: so that the solution arising to my mind is either to cut while the blooms are warm and dry on the previous evening or after the morning dews have left them. It would be well if other growers stated their experience in this matter.

To continue my notes. That grand tournament, the National Rose Society's Show, was held when great heat prevailed, but canvas was admirably arranged to come very low down towards the boxes; the floors had been well saturated with water, and the whole Show was refreshingly cool. It could not, however, be inspected comfortably, for the space allotted to the public was far too narrow. To particularise any one flower from such a quantity exhibited will appear almost invidious, but mention should be made of *Souvenir d'Elise*, for it was almost, if not quite, the grandest Rose in the whole Exhibition. A box of *Capitaine Christy* from Mr. G. Paul was indeed splendid. *Mdlle. Marie Rady* was also magnificent, and as for *Horace Vernet* and *Marie Baumann* they were beautiful in the extreme. *Le Havre* also played a most prominent part, as did several other of our well-known old exhibition varieties. Before passing from the Palace Show it may be well to remark that that good and much-admired Rose *Etienne Levet* was nowhere, and in almost every case where it was included in the collections it presented a bleached appearance. *François Michelin* has not been up to its usual standard of excellence this year.

On the 10th of July, when the Royal Botanic Society held their Rose Show, the weather had become much cooler, and some heavy rains had fallen in the interval, so that maiden blooms were shown there magnificently by several nurserymen, notable amongst them were Messrs. Paul & Son and Cranston and Co., and I have never seen better blooms exhibited anywhere than by these two firms, who staged enormous flowers of *Reynolds Hole*, *La Duchesse de Morny*, *Louis Van Houtte*,

Madame Lacharme, *Le Havre*, *Alfred Colomb*, &c. A grand bloom of *Jean Sury* was also exhibited both in Mr. Paul's collection here and on the following Saturday at Bickley. It is a Rose sent out about the same year as *Horace Vernet*, and as shown by Mr. Paul a deep and well-built flower of excellent shape. Messrs. Paul & Son also exhibited at this Show a basket of *Alfred Colomb* containing exactly one hundred blooms which were remarkably fresh and fine. This gorgeous display rivetted the attention of everyone, and when H.R.H. the Duchess of Teck saw them she was so enamoured by their beauty that Mr. Paul sent them to her as a present after the Exhibition was closed.

At Bickley on July 13th I noted *Jean Soupert*, *Pauline Talabot*, and *General Von Moltke* as very promising Roses in Messrs. Veitch & Sons' collection; this last is a splendid dark Rose, and is spoken very highly of by Mr. Hills, Messrs. Veitch's Rose-grower. Messrs. Paul & Son had *La Duchesse de Morny*, *Marie Rady*, *Jean Sury*, *Mdlle. Marie Finger*, and *Louis Van Houtte* in admirable condition.

Madame Sophie Tropic and *Louis Pernet* are two good additions. They have been exhibited in good form in almost every nurseryman's collection throughout the season. *Duchesse de Vallombrosa* has also met with the favouritism she deserves as a light Rose, and amongst newer additions *Penelope Mayo*, *Countess of Rosebery*, *Duchess of Bedford*, and *Earl of Beaconsfield*, all English-raised Roses, have exhibited some very promising qualities. The very best white Rose yet sent out, not a Tea, is without doubt *Madame Lacharme*, which has frequently been exhibited of both extraordinary size and purity this season. To attempt to say which is the best dark Rose I cannot, for the Cheshunt firm is growing rich in them, but *Reynolds Hole* and *Louis Van Houtte* will not be very far behind in competition. *Star of Waltham* will hold its own for many years to come; its form and substance can scarcely be excelled. *Royal Standard* has also been fine, the warm weather evidently suiting it, but I fear its beautifully delicate soft satiny rose-coloured petals will get sealed during wet summers. *Jean Soupert*, *Jean Liabaud*, *Abel Carrière*, and *Madame Prosper Langier* may be considered desirable acquisitions where a collection is aimed at.

The tropical weather did not last long, but sufficiently to cause the cutbacks to be in bloom almost all at one time; the wood became ripened and fresh growths burst almost simultaneously, which are now giving a very fair supply of second blooms.—J. W. MOORMAN.

AUTUMN PRUNING OF FRUIT TREES.

OWING to the general absence of fruit, and to the rains that have periodically fallen throughout the season, the growth of fruit trees is unusually exuberant. The importance of summer pruning has been pointed out and much has been done; but, on the other hand, many more trees have as yet received little or no attention in the matter of thinning out superfluous growth and exposing the foliage at the base of the shoots to the action of sun and air.

The importance of admitting the sun to the foliage of fruit trees, not at the tips of the shoots but at the base, cannot be too strongly urged. It is only by inducing the formation of perfect and fully developed foliage at the base of the shoots that fruiting spurs can be formed. Large leaves form freely enough in the crowded and shaded portion of a tree; they are indeed often larger than the leaves that are fully exposed, just as the growths in the interior of a tree are more exuberant than those on the outside; but such growth is useless, and its very exuberance is caused by an effort to gain light and air. The grossness is a result of shoot struggling with shoot, and leaf with leaf, in an attempt to emerge from the semi-darkness of the tree's interior, in order that they may obtain what are so essential—namely, light and air, to enable the foliage to perform its natural functions of assimilating food and storing it for the tree's well-being, and to render it really healthy and fruitful. If a tree is let alone it will eventually bear fruit on the extremities of the branches. In the battle for existence some shoots will assert their supremacy and the weaker will succumb. Thus it is that so many trees become destitute of bearing wood at their base and in the interior of the heads.

It is the duty of man to intervene in this battle of nature by admitting the light to the foliage by the timely and judicious thinning-out of the branches. Hundreds of fruit trees are at the present moment crying out with Goethe for "light, more light." Give them that light, and in due time they will give a

return by (weather permitting) regular crops of fruit over the whole extent of their branches.

All trees that are crowded should be attended to now by having a great portion of the shoot removed almost entirely rather than by shortening systematically the whole of the growths. At no other period of the year can the operator so well see what growths should be removed as at the present time. Let them be removed promptly, be they large or small, and much greater benefit will be done to the trees than can be effected by any amount of winter pruning, however skilfully the work may then be done. The wounds made by the knife now heal much more quickly than do wounds made in winter; and if branches are severed when the trees are in a growing state the foliage remaining takes care that there is no waste of sap, which is simply diverted into other channels and turned to good account by the leaves then under the action of light.

If the month of September proves bright fruit trees may yet, with such aid as can be afforded them by thinning and pruning, mature their wood and perfect fruit blossoms for another year; but if the trees are neglected now and are permitted to struggle for the light they are seeking, we have no right to expect that they will in any reasonable time arrive at a fruit-bearing state.—AMATEUR CULTIVATOR, *Owon*.

SHOW PELARGONIUMS.—No. 2.

APART from the admitted beauty of Show Pelargoniums they are interesting as showing in a remarkable manner the improvements that may be effected by judicious hybridisation. During late years varieties of the Zonal type have increased as if by magic, and the improved forms and new colours that have been produced have excited the wonder of ordinary cultivators. So rapidly has one variety of this section succeeded another that the advances made in Show Pelargoniums have been comparatively overlooked. The improvements, however, in this fine section are none the less decided on that account. Indeed the difference between the original parents (if they can be traced) of Show Pelargoniums—such, for instance, as the loose white-petalled straggling grower *P. grandiflorum*, and the lilac-purple species *P. cucullatum*, and the splendid varieties now in cultivation—is even greater than the dissimilarity between the modern Zonals and their progenitors *P. zonale* and *P. inquinans*. No flowers in cultivation have given a richer reward to hybridisers and cultivators than Show Pelargoniums, and no flowers even now give a better return for care and skill bestowed upon them than these beautiful and indispensable greenhouse plants.

Whenever a supply of flowers of high quality is desired in the late spring and early summer months, say from March to July, then Show Pelargoniums must be grown. The Zonal varieties are simply invaluable during the same periods, indeed at nearly all seasons; but we have no right to make that an excuse for not growing the Show varieties. It were as reasonable, even more so, to refuse to grow Turnip Radishes on the plea that the long-rooted sort is better, as to contrast the claims of the two sections of Pelargoniums alluded to. They are in fact, to coin a word, uncontrastable, and are both for exhibition and home decorative purposes as distinct as if they belonged to two genera.

If Show Pelargoniums have been “under a cloud” for a time we have the more reason to feel obligated to the nurseryman-florist, Mr. C. Turner of Slough, for continuing as he has done the cultivation and improvement of these plants. Never once does he appear to have flagged in his efforts in obtaining and introducing new varieties. He had faith in the flower, and a flower possessing such sterling merits as this was not likely to deceive him. Once again it is rising into popularity, as is evident by the increasing demand for plants made on those who sell them, and the still more frequent requests for cuttings made to those who are supposed to give them away. I have ceased giving away cuttings indiscriminately, having found by experience that plants that cost nothing are often not valued at half their worth. If flowers are really loved they will be purchased by those who have the means of purchasing them, unless, indeed, money is loved for its own sake more than the flowers are for their beauty and for the pleasure they are in many ways capable of imparting. But many lovers of flowers hesitate purchasing because they do not know what to purchase. They are not practically acquainted with the varieties, and hesitate ordering plants lest they should be disappointed with them when the flowering period arrives.

It is not usual that those who are commencing the cultivation

of any particular class of plants purchase in the first instance the newest, and necessarily the most expensive, varieties. Those who order the novelties generally have a special knowledge of the plants they cultivate, and require new sorts to add to their already good collections. I will not on that, and also on another account, enumerate the latest introductions; the “other account” being that I have only seen some of them and have not proved them. Those that I recommend are worthy of general cultivation I have proved.

The difficulty is, out of varieties so numerous and yet so good, to make a limited selection. The following, however, are all good, embrace a wide range of colour, and are not expensive; they are, indeed, as well worth the money they cost as any other varieties of any other plants with which I am acquainted—Ruth, prevailing colour very deep rose with a maroon spot on the upper petals and a pure white centre; it is of fine form, smooth and glossy, and is without doubt one of the most beautiful varieties in cultivation. Prince Leopold, very bright, approaching scarlet, smooth and free. Purple Gem, the finest of its colour and very distinct. Claribel, a fine contrast to the above; old, but still one of the best whites. Example, rosy crimson with dark blotch; constant and free. Ambassador, rich pink; white eye. Potentate, top petals maroon, lower petals rose; white centre. Scottish Chieftain, top petals dark maroon, lower petals crimson; rich and free. Troubadour, orange pink, maroon spot, white centre; smooth and good. Charles Turner, orange scarlet; a brilliant flower of fine form. Forester, deep rosy pink, maroon spot, white eye; distinct. Gipsy, very dark and rich; white eye. Achievement, rosy lilac and maroon, white centre; distinct and good. Diplomatist, rosy purple and maroon, white eye; fine. Challenger, deep scarlet and maroon; very rich. Archduke, maroon and pink; white centre. Brigand, cherry pink, with maroon spot and white centre. Chieftain, rose, maroon spot; lower petals shaded with lilac, white centre. Constance, fawn shaded with orange; a fine variety. Vesuvius, bright scarlet and maroon; free and good. Mountaineer, a fine bold flower; crimson and maroon, light centre. Kathleen, salmon pink, maroon spot; smooth and fine. Crown Prince, crimson and maroon, clear white centre; fine. Charlemagne, salmon peach and maroon spot; large flower of good form.

The above-named twenty-four varieties are all good. If only six sorts are wanted take the first six, and if twelve choose the first twelve; and if the plants are well grown they can scarcely fail to give satisfaction.—A NORTHERN GARDENER.

ONIONS.

OUR Onion crop has proved very good this year. We sow the seeds and treat the crop as has already been described in the Journal; and perhaps it would not have been worth while calling attention to the subject again, only I wish to give my opinion of two Onions we have grown this season for the first time. The first is new Queen. I cannot quite make out the relation between our sort and the description of it given in some nurserymen's catalogues, as it is described as being a small Onion. At the time James's Keeping, Bedfordshire Champion, Danvers' Yellow, and others had not formed a bulb at all, our new Queen had roots 6 and 7 inches in circumference, and they are now 15 inches round. So much for its size; but its earliness is its greatest recommendation, and if it is grown on this account it will be found very useful. The next one is the Improved Banbury. This has also taken the lead of all the others in size, and it is of first-class form and as hard as a stone. We have them measuring 13 inches round, while none of the others will exceed 12 inches. Of course these measurements only refer to spring-sown produce, raised without any “feeding” or assistance but the ordinary soil they grow in.

The Queen Onion, I should think, would be very suitable for autumn sowing, and would in all probability form bulbs in spring sooner than any other variety.—A KITCHEN GARDENER.

WALTHAM CROSS VINE.

I PLANTED a cane of it on the 3rd of May, 1877. It grew very vigorously last season, and the rod this year is 18 feet long and stout in proportion. After being cut back it produced several bunches, three of which I have left on. These are now just ripening. The berries are very large and handsome; the flesh is firm, but it is not yet sufficiently ripe to judge of the flavour. I find it a free setter—quite as free as

Black Alicante growing in the same house, and should it finish off as it promises to do I shall consider it a first-class Grape.—
J. PRINGLE, *The Gardens, Ponsbourne Park, near Hertford.*

PELARGONIUM SOCIETY.

THIS thriving Society held its fourth annual meeting on August 14th at Chiswick, when the following report of the Executive Committee was adopted:—

"The Executive Committee, in laying before the members the Society's fourth annual report, have the satisfaction of being able to refer favourably to the labours of the past year and to the Society's present position. They congratulate the members on the increased popularity of the Society, as evidenced by the accession of new members and by the great liberality of its old and well-tried supporters—this popularity, as they believe, being mainly attributable to the endeavours constantly made by the executive to stimulate the production of improved varieties in all sections of the family, thus making its admirers still more convinced of its usefulness, and at the same time educating and improving the popular taste.

"The Exhibition held at South Kensington on June 18th was a decided success, since the specimen plants were well grown and flowered, and presented a fine display, and the progress made in all sections of the Pelargonium family was satisfactorily represented in the exhibits of new varieties. It is still to be regretted that many members withheld from exhibiting, and this fact will induce the Executive Committee to propose, for the approval of the members, such modifications of the prize schedule for 1879 as they hope may tend to remedy this defect.

"The Executive Committee take this opportunity to tender their thanks to Mr. Kinghorn, Mr. G. Smith, and Mr. Moore, who fulfilled the onerous duties of Judges. They desire also to call attention to the fact that some of the prizes were withheld by the Judges on account of the inferior character of the exhibits, and wish to impress upon the members that this course is necessary to the full realisation of the objects for which the Society was established—namely, the attainment of the highest standard of perfection in the exhibits of new varieties and the best state of cultivation in the older varieties. Any other course would be detrimental to the Society, which would in that case utterly fail to carry out its avowed objects.

"The Society have again to acknowledge the substantial and valuable assistance rendered to it by the Council and officers of the Royal Horticultural Society—first, by the cultivation of their collections at Chiswick; and, secondly, by the facilities afforded for holding their exhibitions. The Society's warmest thanks are also due to those exhibitors of other subjects who came forward so liberally, and by their magnificent ornamental groups added so much to the effect and beauty of the show.

"The Executive Committee hope to be able in the ensuing year to carry out their desire of publishing a list of all the new varieties in all the sections of the Pelargonium family, and of notifying those varieties which they consider superseded, and which consequently would be better withdrawn from cultivation.

"The annexed balance sheet presents a satisfactory view of the Society's financial position so far as it goes. Increased exertions are, however, needed on the part of its members, so that the number of prizes offered in some of the classes may be increased, as well as to provide means to acknowledge in some slight degree valuable aid now gratuitously rendered, and to maintain the Society in an independent position."

BALANCE SHEET FOR 1878.

Receipts.

To balance brought forward from 1877 account.....	£42	6	8
„ Subscriptions for 1878	109	4	0
	£151	10	8

Payments.

By printing.....	£4	19	3
„ Advertisements	2	14	10
„ Postage and stationery.....	1	2	0
„ Prizes awarded June 18th as per statement.....	78	7	6
„ Balance in hand	64	7	1
	£151	10	8

Examined and found correct, (CHARLES NOBLER,
July 2nd, 1878. (EDMUND B. FOSTER.

The officers for the year ensuing were appointed as follows:—
Chairman, James McIntosh, Esq., Duncreevan, Oatlands Park;
Vice-Chairman, E. B. Foster, Esq., Clewer Manor, Windsor;
Hon. Treasurer, Dr. Denny; Hon. Secretary, Mr. T. Moore, F.L.S.
Committee—Messrs. Browne, Cannell, Catlin, Fraser, George, Henderson, Hibberd, Hogg, James, Kellock, Kinghorn, Laing, Llewellyn, Masters, Peach, Pearson, Postans, Sisley, G. Smith (Hornsey), G. Smith (Edmonton), Turner, H. J. Veitch, Webb, West, and Wilson. The schedule of prizes for next year under-

went discussion and amendment, and it was unanimously agreed that the Society should award certificates of merit to deserving novelties exhibited at its shows.

INTERMEDIATE STOCKS.

As a rule the sweet and attractive spring-flowering plants are not grown in private gardens to the extent that their merits deserve. From March to June they form a delightful feature in the decoration of greenhouse, conservatory, window-sill, and garden.

Nowhere are these Stocks seen finer than in Covent Garden Market, where they are sold by thousands for the decoration of metropolitan homes. The growers of the plants have special facilities for cultivating them, and have probably special strains of their own; at any rate the market plants are remarkable for their dwarf sturdy habit, rich colour, and early-flowering qualities. Be this as it may, it is certain that the principal seedsmen can supply Intermediate Stock seed that will produce plants of good habit and which will yield a large percentage of double, sweet, rich flowers. The scarlet, or rather crimson, variety is the best; if whites and other coloured dwarf Stocks are desired early in spring they can be had by sowing seeds of the Ten-week Stocks in September. Lothian Stocks are probably the finest of all for winter and spring flowering, but they require a much longer period of growth than the varieties above named, and it is too late to sow the Lothians now for producing early spring-flowering plants; it is, however, just the time for sowing seed of the Intermediate varieties.

Let it be sown at once if possible, and not next week or the week after, or the plants will not become large enough before winter to produce stout spikes early in the spring. Sow very thinly in rich light soil in the open garden. If the soil of the garden is naturally heavy prepare a compost of light loam and very much decayed manure or leaf soil in equal parts, and make a bed of this about 3 inches thick in which to sow the seed. If the seed bed can be so formed as to be covered with handlights or other glass protectors so much the better, as if drenching rains occur when the seedlings are in a small state much injury may be done; still the young plants must not be coddled, but should be encouraged to assume a sturdy habit of growth from the very beginning of their career.

When they are large enough to be handled, and before they are in the slightest degree crowded in the seed beds, pot them singly in 60-sized pots, place them in a frame and keep them close for a week, and shaded if the weather is sunny, but the moment they can endure the sun they must have it, also all the air possible, even to the extent of removing the lights entirely night and day during settled weather, and dwarf vigorous plants will be produced before winter. They must be wintered close to the glass in very light frames, and must have protection in severe weather. They will require little water during the dull days, yet must have sufficient to keep them in a fresh growing state, but decay of the foliage must be specially guarded against.

If very dwarf plants are required let them remain in the small pots until they produce flower buds, and the moment it can be ascertained which will be double and which single shift the former into their blooming pots, using very rich turfy soil, and in a few weeks attractive plants will be produced which cannot fail to be generally admired.

It is customary in private gardens to place three plants in a 48-sized pot, and there leave them to flower; but this is not often satisfactory, as one of the plants may prove single, and it may happen two, and a plant never looks well growing close to the side of a pot. It is far better to pot them singly, as the plants, if well grown, assume a natural dwarf pyramidal habit, which can never be so well displayed as when the plant is placed in the centre of its pot. But although double flowers are naturally the most admired, yet the singles are by no means to be despised in early spring. Pot three or five of the single plants in 7 or 8-inch pots, and large floriferous bushes will be produced, which will be found very valuable for affording cut flowers for vase decoration and bouquets, the singles being as good or even better for those purposes than the doubles.—
A CONSERVATORY FOREMAN.

THE POTATO CROP IN SOUTH WALES.

As the Potato crop is always an important one, perhaps it may be interesting to state that about here the crop is excel-

lent this year. Last year the disease was fearfully bad, about 80 per cent. of the tubers in both gardens and farms being destroyed; but this year it is the very reverse, not 20 per cent. being diseased, and the tubers are both larger in size and more numerous than they were last season. We have not a rain gauge here, but I should imagine that six times as much rain fell during the latter part of May and throughout June, July, and the early part of August last year, as has fallen during that time this season, and I think it is to the dryness of the weather that we have experienced during the last three months that the goodness of the Potato crop may be attributed.

A variety named Early Mealy and Prince of Wales are two that are the most subject to disease amongst all the varieties we grow. Paterson's Albert, Paterson's Blues, and in fact all of Paterson's varieties, are excellent Potatoes both for abundance of crop, resisting the disease, and quality. Although many of the American sorts have the reputation of possessing all these qualities I do not consider any of them equal to Paterson's. The American Snowflake, however, is a very handsome Potato, and for exhibition it has few equals. Sutton's new Magnum Bonum is a Potato which I think will soon be much grown. Here Gloucestershire Kidney is the best of its class, and I would advise any of your readers who do not possess it to try a few of it next year.—J. MUIR, *Margam*.

STRIKING ROSE CUTTINGS—DISBUDDING.

No time of the year is more suitable for the insertion of Rose cuttings than the present, and there are very few Roses that will not thrive as well on their own roots as when budded on the Briar or Manetti. In some soils, and probably the majority, a better growth and finer blooms are produced by Roses grown from cuttings than by any other mode of increase. I am not now writing of Roses for exhibition, but Roses for making the garden gay and sweet, and rooms gay and sweet too, for I like to see Roses grown so that they can be cut by the bushel and yet not be missed from the bushes.

Like many more, I have never been able to buy Roses by the hundred, but I am thankful to say I have had the privilege of growing them by the thousand. A dozen or two at most are all that have been purchased annually, and then the object has been to increase those that were esteemed good, so as to have them in abundance. To this end Briars have been obtained and Manetti cuttings struck and eventually budded, and the same practice continues, but the most satisfactory mode of increase is by striking cuttings of the Roses themselves. It is not the quickest mode, but it is the safest, and in the end affords the best supply of blooms and buds.

Blooms and buds! I cannot refrain from repeating the words in the hope that something will be done to encourage Roses being exhibited in a less starchy, formal, and artificial manner than is the fashion at the Rose shows. Let the buds—the fresh, sweet, beautiful, half-expanded buds—have a better place than the rubbish heap, to which so many basketfuls are consigned in obedience to the law of exhibiting. Those buds are considered as robbers, but I consider those who pluck them so mercilessly greater robbers still. “D., Deal,” has written strongly against dressing Carnations and in favour of the flowers being staged in a natural manner, and I hope he will on the same principle do something to encourage the natural beauty of the Rose being preserved and exhibited at the shows.

But to return to the cuttings. Let them be taken off and inserted at once. That is the principal point in connection with the work. If they are severed from the trees, and permitted to flag and become partially shrivelled before insertion, they will not emit roots so quickly as if they are kept fresh and moist. The cuttings cannot be inserted too quickly after they are made. If the wound is permitted to dry up in the air it is slow to form a callus in the earth. That is a point worth remembering when Rose cuttings are inserted in summer.

Select shoots that are tolerably firm. Soft succulent growth is of no use; on the other hand, hard stunted wood seldom strikes freely and grows vigorously. The lower portions of the shoots produced this year make excellent cuttings—such shoots that are cut off for having their buds extracted. Make the cuttings the same as Geranium cuttings—that is, cut them across close under a joint and remove the leaves for a length of 4 or 5 inches. Leave one pair of leaves at the top and insert the cuttings firmly up to the leaves, leaving two eyes only above ground. The soil should be light and moist, and the position shaded. If the weather is not showery they must be sprinkled frequently so as to preserve the foliage fresh, and roots will form

so much the quicker. They should be inserted in rows a foot apart, the cuttings being 3 or 4 inches asunder in the rows, and there they should remain for about eighteen months. Only a small per-centage will fail to strike. Most varieties strike fully as well as cuttings of the Manetti; in fact, the cuttings will form plants quicker than can be produced by budding on Manettis, counting from the time (which is quite fair) when the Manetti cuttings were inserted.

I have struck hundreds—I may say thousands—of Rose cuttings in August, and it is rare indeed that blooms cannot be cut from April to September, commencing with the old Monthly China Rose growing against the south wall of the garden, and finishing with that and such sorts as Gloire de Dijon and Souvenir de la Malmaison on the north border.

I had almost made up my mind not to write about Roses again since the Editors were troubled with forwarding so many letters to me, but I have ventured to write on a point of practice which is not likely to give rise to after correspondence.—A PARSON'S GARDENER.

FRUIT CULTURE IN KENT.

ON the invitation of Mr. L. Killick of Mount Pleasant, Langley, Maidstone, the proprietor of extensive orchards and Hop grounds, some members of the Fruit Committee of the Royal Horticultural Society visited Maidstone on Friday last, and inspected some of the fruit-growing establishments in the vicinity of that town. After partaking of a preliminary luncheon at the Star Hotel two waggons conveyed the visitors to Barham Court. The route selected was a most picturesque one, the road passing through the village of Tovil, and overlooked almost along its whole course the beautiful valley of the Medway and the gently undulated rising ground beyond. Orchards old and new of Cherries, Plums, and Apples, some having an undergrowth of grass, others of Currants, &c., formed next to the Hop grounds the principal feature of the landscape, and as a change from the Hops and the fruit trees was here and there a Raspberry field. Hops were on all sides and everywhere, the crops varying extremely according to the state of the soil and the absence of insects and mildew. Many of the stools and poles were almost destitute of inflorescence; others were producing only large clusters at the top; and a few, but only comparatively a few, were well furnished almost to the ground, and bearing really good crops; and unfortunately some that were producing the finest hops in the greatest profusion appeared to be the most seriously affected with mildew. Yet although a full average crop is not expected, the appearance of the grounds, while the foliage is yet green and the hops are just approaching maturity, is imposing to such visitors who are not accustomed to the Kentish mode of ground cultivation. Tostin bridge was reached and crossed after a drive of about three miles; and another mile traversed, the first halting place was reached at Barham Court, and Mr. Roger Leigh's unique garden was inspected.

The fine trees on the lawn were greatly admired, especially a magnificent example of the Cedar of Lebanon with more than a dozen leaders, each of them of tree size, the head being about 250 feet in circumference. Two trees of Magnolia grandiflora on the open lawn attracted notice, as also did a handsome pair of the Willow-leaved Oak. Passing rapidly through the plant houses near the mansion and noting the health and cleanliness of the specimens, especially luxuriant and highly coloured plants of Adiantum farleyense, and onwards round the mansion and through a small flower garden—a charming dell-like enclosure, containing an admirable example of Pulham's rockwork, also subtropical plants and carpet beds—the fruit gardens were reached. These, as has been previously mentioned in the Journal, are arranged on the French system. An extensive collection of fruit trees is admirably managed by Mr. Haycock, but this year, as a rule, the trees are not producing anything like freely; yet to the rule there are some pleasant exceptions. Notably is this the case with the following Pears grown as diagonal cordons on a wall having a west aspect—namely, Winter Nelis, Joséphine de Malines, Beurré Hardy, Beurré d'Anjou, General Todtleben, Beurré Bachelier, Doyenné du Comice, Durodeau, and Louise Bonne of Jersey. The above are bearing excellent crops of fine and highly coloured fruit, but several trees on the same wall of Easter Beurré are in very indifferent health, their condition being attributable to the French stocks on which the trees are worked. Peaches on the south wall are also bearing full crops, and a row of diagonal cordon-trained Calville Blanche Apples at the foot of

the wall is also bearing a good sprinkling of fruit. Apples are grown in great numbers and in various forms, as diagonal, vertical, and horizontal cordons on wires; also as bushes and pyramids. A few trees of the pretty Lady Apple are wreathed with small scarlet fruit; and also bearing well are Reinette d'Espagne, Fall Pippin, Royale Anglettere, Forge Apple, Golden Spire, New Hawthornden, Emperor Alexander, Kerry Pippin, and some others, one of which named Maltster attracted much notice. It is a large, smooth, solid Apple of much promise, and the tree is a healthy grower and forms fruit spurs freely. The trees constituting this fine collection were mostly obtained from France, and some trouble has been given by the incorrect nomenclature of several of them. Mr. Haycock's intimate knowledge of hardy fruits enables him to correct mistakes as the trees come into bearing, and shortly the entire collection will be correctly named. This, however, is work that ought to be done in nurseries, and, in fact, is done in all English establishments of repute, where the trees would be unhesitatingly burnt if any doubt existed as to their right names. Many trees are also grown and fruited in pots at Barham, some in a large orchard house, and others plunged in beds enclosed by low brick walls, the blossoms being protected by canvas. Most of these trees are producing good crops, especially the Plums.

Besides inspecting the fruits outside several ranges of glass were passed through. From the Peach houses all the fruit had been gathered, but good crops of Grapes, especially Madresfield Court and Muscat of Alexandria, were hanging on the Vines. In some pits excellent crops of Cucumbers and Melons were hanging, the latter being especially fine, the varieties being Eastnor Castle Green Flesh, Cox's Golden Gem, and Golden Queen. These pits are three-quarter spans, and the path through them is close to the back wall under the short lights facing the north; over this path from end to end, and also through the Pine pit, Vines in pots are trained in the form of an arch, which forms a shady arcade of foliage, attractive in appearance and conducive to the ripening of the canes. These Vines are very fine, and are certain to produce heavy crops next year.

Leaving Mr. Leigh's garden the next halting place was at Mr. Leney's, The Orpines, Wateringbury. This place, though not a garden, was too celebrated to be passed, on account of its world-famed shorthorns—the renowned Wateringbury herd. An animal was shown which £5000 would not buy, and amongst many others of great value a cow (The Duchess), whose last two calves realised upwards of £5500 when they were six months old. Such animals were worth seeing, and they can be appropriately mentioned in this Journal, where agriculture is allied with its twin sister horticulture. The visit to Orpines will be remembered by the visitors, not only for the shelter they obtained from a drenching and somewhat protracted shower, but also on account of the hearty welcome and hospitable reception accorded to them by Mr. Leney.

A long drive being yet in the programme and time flying a short cut of five or six miles was determined on to Boughton Monchelsea. The route was through the village of East Farleigh, where the Crittenden Damson originated, that is so highly and deservedly esteemed by the Kentish fruit-growers. It can be said with truth of this Damson that no other variety of fruit tree in the Kentish orchards is this year bearing so constantly, regularly, and freely as this Damson. Wherever trees are seen they are crowded with purple fruit, and all the trees are on their own roots—i.e., they are raised from suckers, or, to use the local term, "spawn," and are not grafted or budded on other stocks. Shortly after leaving Farleigh, Linton Park with its neat entrance lodge was passed on the right, and on the left the home of one who is held in high esteem by all who know him, and who is respected by thousands of others to whom his name is familiar—John Robson. Mr. Robson's home consists of a commodious house, termed Stone House, and, what must make it emphatically a "home" to him, a very large garden. Long borders of bright flowers skirt the path to the house, and behind the flowers are hundreds of fruit bushes and trees. It was welcome to hear his name so pleasantly mentioned and his works as a gardener and a writer so highly appreciated. Mr. Robson's is a pleasant home, and congenial; long may the veteran live to enjoy it. Rain threatening, luncheon waiting, and the guests behind time, the horses were perforce urged swiftly on to Jack Stonham's, at least that was the name boldly inscribed on the sign of the roadside inn at Boughton Monchelsea. On Mr. Jack Stonham's house the good old Gloire de Dijon Rose luxuriates. In a building contiguous to

the inn a luncheon was provided at the instance of Mr. Killick—a spread that places Mr. Stonham in an honourable position on the list of caterers. It was bountiful to a fault, and in all respects excellent. Mr. Killick presided at the luncheon, and Mr. Skinner, another extensive Kentish fruit-grower, occupied the vice chair. After the repast Mr. Killick proposed the toast of the Royal Horticultural Society, and expressed the pleasure it gave him to see its representatives present. He coupled the toast with the name of Mr. Henry Webb, a Vice-President of the Society and Chairman of the Fruit Committee. The volleys of "Kentish fire" having subsided Mr. Webb replied, expressing the pleasure that he and his colleagues had experienced by the visit. He referred to the useful work, so far as related to practical horticulture, that the Society had done and continued doing, especially at the periodical meetings of the Society and the experiments conducted at Chiswick. He looked hopefully towards the future, and offered a welcome to all fruit-growers, horticulturists, and gardeners who were disposed to enter the ranks of the old and honourable Society. Mr. William Paul in felicitous terms proposed the health of Mr. Killick, who, after more "Kentish fire," briefly replied by expressing a hope that this was only the first of a series of annual visits that he would be honoured with by his friends.

A flying visit was next made to a portion of the fruit grounds of Mr. Skinner, not a tithe, however, of which were seen, for night was creeping on. The grounds can only be fittingly described as a forest of fruit trees with an undergrowth of Kentish Cob Nuts and Filberts. The trees appear to be left very much to Nature, and a few of them are of great size, especially some Golden Knob Apples carrying good crops. Very many trees are barren, but not so the Loddington Seedling or Stone's Apple. This variety is naturally a medium grower, but every tree had a good sprinkling of fine fruit. King of the Pippins was bearing heavily, as also was Yellow Ingestrie, while Lord Suffield, Blenheim Pippin, and Cox's Orange Pippin were producing moderate crops; but the Nuts, perhaps, attracted more attention than the Apples. If the bushes are not centenarians they are not far from being so, for their trunks not more than 2 feet high are as thick as a man's body. From these stems from six to twelve branches have been trained almost horizontally. These main branches are now old, gnarled, and moss-covered, yet from them issues luxuriant growth, and in good seasons abundance of fine Cobs. Many of the bushes are upwards of 15 feet in diameter, and are about 5 feet high. They are quite open in the centres—are trained in fact, in the shape of saucers. They had just undergone their summer pruning by having had all the luxuriant young wood broken off a little distance from the base of the shoots and scattered on the ground. There appear to be acres, perhaps miles, of such bushes as those described, but this year the crop of nuts is a scant one.

From Mr. Skinner's grounds to Mr. Killick's is only a short drive, and Mount Pleasant, Langley, was reached just as the shades of evening were approaching, and some of the visitors had to rush off in hot haste to secure the train before half of the place had been seen. Hop grounds fringed with Crittenden Damsons, orchards old and young on grass, and a large young plantation of Apples carefully tended in well-cultivated ground were rapidly passed through. The most striking of all the fruits was the Damson above noticed. Trees, hundreds of them, only five years old, have heads as many feet in diameter and are masses of purple fruit. Of Plums few appear to be bearing well except Victoria and a variety designated the Bush Plum. Of Pears the Hesse is about the only sort carrying a good crop. Many Apple trees are barren, a few fruitful. Among the latter Loddington Seedling was conspicuous. Others which attracted notice were the Hanwell Souring, a free grower and good bearer; Tower of Glamis, a variety of great promise; Ecklinville, free and fine; Golden Spire, a free-bearing, early, cone-shaped Apple somewhat resembling Lord Suffield; Maltster, very fine; Emperor Napoleon, a deep, rich red Apple of fine appearance; and Early Julian, one of the best of the early sorts. This young plantation of Apples will be highly worthy of inspection in future years. Old trees cannot be referred to except to notice an instance of grafting which is common in Kent. Instead of the trees being headed-down to the trunk and half a dozen grafts being inserted the branches are cut off at 5 or 6 feet from their base, where the wood is comparatively young and the bark smooth. They are then grafted, fifty or more grafts being inserted on one tree. Large heads are speedily formed and the head is soon in a bearing state, the tree instanced, Loddington Seedling, grafted on an

old stock having produced five bushels of fruit the third year after the grafts were inserted.

Mount Pleasant is indeed a pleasant place, pleasant by the splendid scenery in the distance and by the fruit and flowers immediately surrounding the house. It was made pleasant also, very pleasant, to the visitors by the genial welcome they received and the manner in which their wants were anticipated and gracefully supplied by Mrs. Killick.

Amongst those who accepted Mr. Killick's invitation were Mr. Henry Webb, Mr. John Lee, Hammersmith; Mr. Lane, Great Berkhamstead; Mr. William Paul, Waltham Cross; Mr. Dancer, Chiswick; Mr. Harrison Weir, Mr. Haycock, Mr. Record, Mr. West, and other local gentlemen, and your obedient servant—J. WRIGHT.

SCHIZANTHUSES FOR SPRING DECORATION.

ALL, I think, who have seen these beautiful annuals well grown will admit their beauty. There is no mode that I am aware of at all comparable for bringing out the full beauty of these plants equal to that of sowing the seed towards the end of the present month, and growing and flowering the plants in pots in the greenhouse or conservatory.

The finest examples of culture that I ever remember having seen were grown by your veteran aparian contributor Mr. Pettigrew. It is nearly thirty years since I saw the plants in the excellently furnished conservatory at Cheetham Hill near Manchester, and they haunt my memory still. They were dazzling masses of beauty some 4 feet high and 3 feet through, and were produced in fruiting Pine pots. For elegance combined with brilliancy I have never seen plants to equal those. I have grown plants frequently after the same fashion, but specimens of equal size to those referred to I have never been required to produce. I have been in the habit of flowering the plants in 7 and 8-inch pots, which have been fully large enough for the structure in which they were arranged. Other plants were wintered in 5-inch pots and planted out in the mixed borders of the flower garden, and during the months of June and July few, if any, plants in the garden were more admired.

The plants are of easy culture. The treatment usually given to Mignonette suits them admirably. The great point is to sow the seed thinly and never at any time to permit the plants to become drawn. Before they touch each other in the seed pots they should be thinned. If only small plants are required to flower in 48-sized pots the seed should be sown in 60-sized pots, allowing three or four plants to remain in each pot. If large brilliant bushes are required sow the seed in 5-inch pots, and leave from seven to nine plants in each according to the size of pots the plants are to be flowered in. One shift before winter is usually sufficient, or, if necessary, the plants may be wintered in the seed pots. After sowing the pots should be placed in cold frames, but the lights should be drawn off on every favourable moment, and especially at night when the weather is settled. The best mode of wintering them is to plunge the pots in ashes in a pit or frame having a southern aspect, the plants being close to the glass and protected from frost.

Early in the spring, when fresh growth commences, they require shifting and to be placed in the lightest and best ventilated position at command, yet must be secure from severe frosts, which at that period of the year are often prevalent. They thrive best in soil that is rather light but rich, and after the blooming pots become filled with roots clear weak liquid manure given twice or thrice a week is highly beneficial; copious supplies of water are imperative. If the plants are neglected in this respect the foliage assumes a sickly hue, and not only mars the beauty of the plants, but impairs the size and colour and shortens the duration of the flowers. Given the treatment required, and it is simple enough, few plants will be more attractive in May and June than these gay yet chaste and too-seldom-seen annuals.

All the varieties are worthy of culture, a few of the most effective being *retusus* and its white variety *albus*; *papilionaceus*, quite butterfly-like; *pinnatus grandiflorus*, and *Walkeri*. If I were growing only one variety I should choose *retusus*.—J. W. S.

ST. SWITHIN PEAR.

To the many achievements in the way of raising new fruits the Sawbridgeworth Nurseries have added a new early Pear

which will add to their well-won reputation. The earliest of all Pears is Doyenné d'Été, a small kind which decays as fast as it ripens, and which if not gathered rather before it ripens on the tree is little better than worthless. The new Pear, which has been called St. Swithin from its ripening in the middle of July about St. Swithin's day, is superior to Doyenné d'Été in every respect. It is larger, it keeps longer after being gathered, and it is of superior flavour.

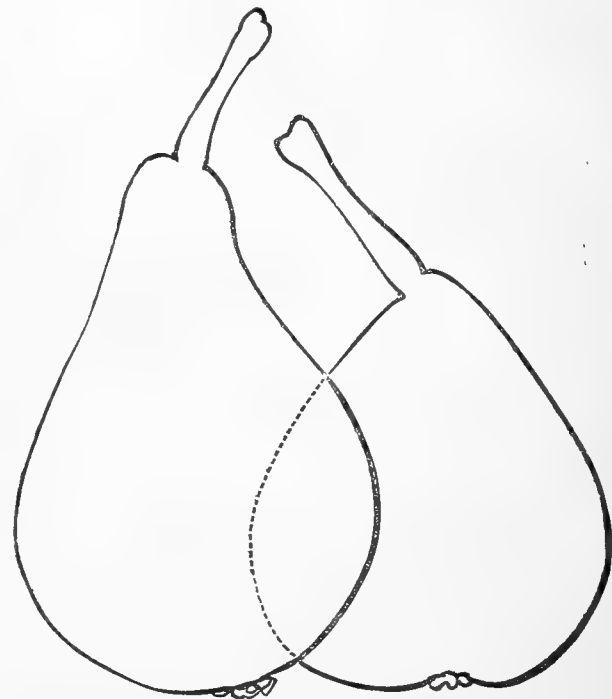


Fig. 20.—St. Swithin Pear.

The fruit is rather below medium size, obovate or pyriform, the two forms being shown in the accompanying illustration. Skin smooth, grass green, thickly dotted and mottled with russet and sometimes with a faint brown blush on the side next the sun. Eye small and closed, with incurved tooth-like segments set even with the surface without depression. Stalk from half an inch to an inch in length, inserted without depression. Flesh yellowish white with a greenish tinge, tender, juicy, and sweet, with a fine brisk flavour.

St. Swithin Pear was raised from the *Calebasse Tougard*, a remarkably prolific Pear. The seedling has the same characteristic. It ripened in an early summer by the 16th of July, but this year it was later. The growth of the tree is not vigorous, but it forms a compact pyramid. The flavour of the fruit is more sprightly and brisk than the Doyenné d'Été. Altogether it will be found a pleasant addition to the summer garden Pears.

A VISIT TO THE EXETER NURSERIES.

FOR some time I have been intending to write an account of a visit I paid to the extensive nurseries of Messrs. Lucombe and Pince at Exeter, but the pressure upon your space has of late been very great, and I have been very busy; but now that the great shows are over, and that autumn flowers alone attract attention, a few notes upon the subject of my visit may be acceptable.

As many of your readers are aware the sole proprietor of these nurseries is Dr. Woodman. There is no Lucombe and no Pince, though on one occasion Dr. Woodman averred the contrary.

On the evening of one of the most successful Rose shows ever held, whether at Exeter or elsewhere, Dr. Woodman was returning home from the hospitable abode of "Hercules" when he suddenly became convinced that a fire of some magnitude was raging near his place. He asked a bystander where the fire was. "They say it is at Pince's," was the reply. "Pince's! What do you mean by Pince's? I am Pince." His stables

fortunately alone suffered on that occasion, and his extensive collection of plants was saved.

This is indeed a grand assortment of Flora's gifts. It extends to nearly every species of flower, beginning with stove and greenhouse plants and ending with hardy Alpines and herbaceous plants. He has a great amount of glass, all constructed in a plain useful manner, which says, as plainly as if it spoke, "We mean business, not show."

On my arrival I was joined by that enthusiastic florist the proprietor, who took me round everywhere, and in the evening drove me to his distant nursery at Exminster. It would take up too much of your space were I to attempt to describe to you half of what I saw. I can only give you a few details as to the most striking features of the place.

First, the houses are full of young plants in a most flourishing state, but the grand specimens which took London by storm at the Westminster Aquarium no longer grace their old home. They had become too big for their home. The children had outgrown their cradles and required rocking chairs. Dr. Woodman would have had to build new houses for them, and this he did not feel inclined to do, so he sold them, and at the Crystal Palace and Kensington I have recognised old favourites that once smiled down on the fair lasses of Devon at Northernhay. But though the giants have sought new hunting grounds, yet their children remain to keep up the reputation of their old home, and a nicer cleaner lot of young stuff I never saw.

I need not dilate on Allamandas with their golden flowers, or Bougainvilleas with their sheen of dewy pink, or seek to tickle your readers' ears with descriptions of Dipladenias and Ixoras. I can leave the charms of the virgin *Eucharis* unsung, or the pure waxen blooms of the bridal *Stephanotis* uncelebrated. I can simply say that all the flowers, the names of which are household words among florists, were there in all their beauty.

And now let me go outside and tell your readers of the rock garden. This was to me a perfect wonder. It exceeds all I have ever seen. It is finer than the one in the Battersea Park, and could not in my opinion be excelled. How any man could go to the expense and trouble of making that maze of rocks and winding paths when there was nothing in a trade point of view to be gained by it passes the comprehension of many who see it. But the late Mr. Pince had a soul above such a low consideration; he was a true horticulturist at heart, and lavished his money and labour upon what was to him a work of love. You may wander in that rock garden in the noon heat of a summer day, and you will be as cool as if you were sitting by the sad sea waves; you may stroll about and admire the Alpine plants, and Ferns, and *Lycopodiums* which abound, and forget altogether that within 20 yards of where you are is the great high road to Exeter; you may bend down and see your ugly face reflected in a pool of limpid water where the Water Lily and other aquatic plants, like the mermaids or syrens, seem to woo you to kiss them, and within two miles of you is the metropolis of the west, the lovely city of Exeter. The botanical student may spend hours and days, and yet find plenty to learn when he had done. The Editors of this Journal would be enchanted with it if they would but come so far, and would be the better for a few hours or even minutes spent there.

In the general nursery the most prominent features are the pinetum and the Italian garden. The numbers of fine Pinuses—*noobilis*, *insignis*, *austriaca*, and *excelsa*—would delight the lover of these grand Conifers, while the numerous specimens of Golden Yew and *Arbor-Vitæ* would enchant the painter with their rich colour and shapely form.

Dr. Woodman is also a cultivator of the Rose upon (I hope he will forgive me, but I am trying to describe truthfully what I say) a small scale. He has evidently the wish to grow good plants, but up to the present he seems to have had bad luck. His rows contain more failures than are usually seen in first-class nurseries, but he intends to persevere, and no doubt will soon succeed, and be in this, as in many other departments, *nulli secundus*. He has, however, a fine collection of *Niphetos*, which he finds so useful for bridal bouquets and cut flowers. While I was there Sisters of Mercy were wandering through the houses collecting flowers for the altar vases of their chapel, and they find *Niphetos* a most valuable Rose.

A small space in the nursery is devoted to hardy herbaceous plants. Here may be seen excellent specimens of *Delphinium*, *Dianthus* in its various species and varieties, *Phlox*, *Pentstemons*, &c., and the proprietor is commencing to form a good collection of Pansies.

Here, as elsewhere, I met with the greatest kindness and hospitality from the owner, and I shall hope before the winter to pay him another visit.—WYLD SAVAGE.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 20TH.

ALTHOUGH fruit, plants, and cut flowers were exhibited they were not represented in large numbers, and the meeting on the whole was not a large one; yet several of the exhibits were of great merit, and first-class certificates were awarded accordingly.

FRUIT COMMITTEE.—Mr. W. Paul in the chair. The following fruits were brought from the Society's garden at Chiswick—Early Silver Peach from a wall, one of Mr. Rivers's seedlings. The fruit was large and more highly coloured than usual. It was of fine flavour, and as an early variety one of the most desirable. Auguste Julie Pear, an early variety ripening in the middle of August; a crisp-fleshed, juicy, sweet, and finely perfumed variety, coming into use at the same time as *Beurré Giffard*. Mr. Francis Dancer, Little Sutton, exhibited dishes of Rivers's Sultan Plum raised by Mr. Rivers. It is a valuable early Plum, excellent bearer, and vigorous grower. It was awarded a first-class certificate. Also a good dish of Victoria Plum. A letter of thanks was awarded for the collection. A collection of Russian Apples was sent from the garden at Chiswick, none of which was worthy of cultivation. Messrs. William Paul & Son of Waltham Cross sent fourteen dishes of early Apples, to which a letter of thanks was awarded.

Mr. Coleman, Easton Castle, sent a red-fleshed seedling Melon called Dr. Hogg, raised by Mr. R. Gilbert, Burghley, but it was not of sufficient merit to warrant a certificate. Mr. Henry Prinsep, The Gardens, Buxted Park, Uckfield, sent a seedling Melon called *Beswick's Hybrid*, but it was not equal to others in cultivation. He also sent another called *Buxted Hybrid* which was not ripe. Mr. Osman, South Metropolitan District Schools, Sutton, Surrey, sent two seedling Melons which were not good. Mr. Fraser, The Gardens, Ashby Hall, Sleaford, sent four seedling Melons, all of which were inferior in flavour. Mr. Hinds, gardener to Sir Thomas Edwardes Moss, Otterspool, sent a fine bunch of Golden Champion Grape which was completely spoiled in the carriage. Mr. J. G. Cheek, gardener to G. D. Clapham, Esq., Great Dunmow, sent a seedling Cucumber called Lord Beaconsfield, which was not better than others in cultivation. Mr. Young of the Milford Nurseries sent jam made of *Elæagnus edulis*, which was considered deficient in pulp.

FLORAL COMMITTEE.—Dr. Denny in the chair. Prominent amongst the plants submitted to the Committee was the grand new Orchid raised by Mr. Dominy, and which has recently flowered in the collection of Messrs. Veitch & Sons. This remarkable variety was alluded to on page 132, and it is only necessary to say now that in addition to its remarkable colour the flowers are deliciously perfumed. The growth of the plant is free and upright, the pseudobulbs being somewhat slender and 5 to 6 inches long, the leaves being 8 or 9 inches in length and 1½ inch in diameter. It is a grand acquisition, and has been named *Cattleya Veitchiana*. A first-class certificate was unanimously awarded for this fine plant.

Sir Trevor Laurence, Bart., Burford Lodge, Dorking, sent a fine plant of *Odontoglossum Reichenheimii*. The pseudobulbs are large, and the flower spike about 5 feet long. The upper half contained the flowers, which are produced on short branchlets and are beautifully marked. The sepals are chestnut colour marked with buff, and the lip purplish mauve tipped with pinkish white. From the same collection came *Dendrobium McCarthiae*. The flowers are very large and drooping; sepals very pale lavender, the margin of the lip being a deeper shade of the same colour; throat violet with a dark bar, and surrounded by a zone of creamy white. A vote of thanks was awarded.

Mr. Mitchell, gardener to Dr. Ainsworth, Manchester, sent a seedling *Cattleya* named *Mitchellii*, the result of a cross between *C. Eldorado* and *C. Leopoldi*. The sepals and petals of the new variety are purplish salmon in colour, the lip, which is rather small, being violet mauve, and the throat orange. The flower is distinct alike in form and colour, and was awarded a first-class certificate.

Mr. B. S. Williams, Holloway, exhibited a small collection of plants, to one of which, *Croton Williamsii*, a first-class certificate was awarded. The plant is a strong grower, with smooth, large, laurel-shaped foliage 8 to 9 inches long and 2 broad. The ground colour is very dark green heavily veined and mottled with crimson. It will make a fine companion plant to *C. undulatus*, but is brighter in colour than that good old variety. A large-leaved variety named *Henryanus*, exhibited by Mr. Williams, was very effective by its fine golden yellow foliage.

Mr. R. Johnson, gardener to T. T. Clarke, Esq., Swakeleys, Uxbridge, exhibited two very fine plants of *Valloas* as seedlings from *V. purpurea*. The flowers are very clear and bright in colour, and the plants are extremely floriferous, one of them having twenty-five spikes. A cultural commendation was awarded by the Committee. Mr. H. Clayton, The Gardens, Grimston Park,

Tadcaster, exhibited a plant of *Blechnum interruptum*, more curious than beautiful, and a botanical certificate was awarded.

Some fine Dahlias were exhibited by Mr. Turner, Royal Nursery, Slough, to two of which, Helen Macgregor and Lord Beaconsfield, first-class certificates were awarded. The former is a flower of great refinement and symmetry; the colour is rosy purple, deepening at the tips of the petals, which are cupped, and in the centre of the flower are nearly white; very chaste and unique. The latter is a very large and massive flower; colour very rich maroon. John Ashby, brilliant scarlet, was very fine; also Amy Robsart, purplish lilac. A creamy white Pompon Dahlia, Lady Blanche, is remarkable by its much-cupped almost quilled petals; it is very distinct. Messrs. John Laing & Co., Stanstead Nursery, Forest Hill, exhibited Begonia Mrs. J. H. Elwes. It is of the B. Pearcei type, and bears some resemblance to B. Moonlight; free and attractive. Mr. H. Cannell sent a splendid collection of thirty-six varieties of Verbenas; both trusses and pips were extremely fine, and almost every shade of colour except yellow was represented. A vote of thanks was deservedly awarded. Mr. Cannell also sent some well-marked French Marigolds.

Mr. G. F. Wilson, F.R.S., sent cut blooms of *Lilium Leeshmanni* having a slender stem, narrow leaves, and a richly spotted flower; also the true and beautiful *L. lancifolium rubrum*, which is one of the best Lilies in cultivation. It was greatly admired, and the thanks of the Committee were voted to Mr. Wilson. Mr. Green, gardener to Sir G. Macleay, Bart., Pendell Court, Bletchingley, sent some very fine flowers of Begonias grown in the open border; also a hybrid *Nymphaea*, Regina; *Gladolus dracocephalus*, and a species of *Carica* having pure white Bouvardia-like flowers in umbels and immense palmate leaves, one of them being 2 feet in diameter. A vote of thanks was awarded. A similar award was granted to Mr. Yates, Sale, Cheshire, who sent a fasciated spike of *Lilium auratum* containing about fifty flowers. Similar examples have frequently been produced in Mr. McIntosh's fine collection at Duneven.

From the Society's garden at Chiswick came a collection of Abutilons and cut blooms of *Phlox Drummondii*, *Dianthus Hedewigii*, Zinnias, and Asters. The most distinct and useful of the Abutilons are Lemoinei, yellow; Boule de Neige, white; Rosæ-florum, rose; Beranger, striped; Vexillarium, crimson, foliage variegated, and branches drooping; and Darwini tessellatum, foliage finely marked and flowers good.

GENTIANAS AND THEIR CULTURE.

INQUIRIES having reached us relative to Gentians and their culture, we extract the following from Sutherland's "Hardy Alpine and Herbaceous Flowers," an excellent work published by Messrs. Blackwood & Sons, which treats fully and soundly on the subject to which it is devoted:—

"*Gentiana* (Gentian).—An extensive genus, comprising some of the loveliest of hardy herbs. The species are mostly inhabitants of alpine homes; some of them, indeed, flourish well only at the utmost limits of vegetation on the great alpine ranges of the world and the arctic regions, and such are difficult to cultivate for any length of time, however closely the circumstances of their wild homes may be imitated; but they are not a numerous class, though they certainly are in a few cases amongst the most brilliant of the genus.

"Another group, more numerous and less difficult to manage in cultivation, are found in nature to prefer high mountain pastures, dry or moist, in gravelly soil in which vegetation is scanty, and in deep rich alluvial earth or peat where plants become comparatively luxuriant and more numerous. These are the most useful species, because the least fickle and coy under the restraints of cultivation; and amongst them the brilliancy of the finest of the high alpine genus is closely approached.

"All that may be cultivated in beds or borders flourish well in light, rich, sandy loam; well drained it should always be, but during the growing season at least it should be also moist. The high alpine species, requiring rockwork or pots, flourish in the same soil if the addition of a little peat and a good deal of gritty matter is made to it; but the more special requirements of these will be alluded to hereafter more particularly. They are propagated by division and by seed. The former is a simple method with such species as verna and acaulis, which form turf-like masses not easily destroyed when cut up into even very small bits; but with such as lutea more care is necessary. It and some of its allies form deep descending roots and thick rootstocks or crowns, composed of only a few centres of vitality in even long-established plants, and they should not therefore be reduced minutely. Division should be done in early spring as soon as growth commences actively. Propagation by seed is a very tedious business, requiring some facilities in the shape of cold frames or handlights, and involving some considerable exercise of care and patience; but when large increase of those sorts that are difficult to divide is determined upon, seed must be resorted to as the only means whereby it can be obtained.

"The seed of most of the Gentians is slow to vegetate, especially

if it may have lain some time in papers or in store; but if it can be sown immediately it is ripe some saving of time will be gained. The possibility of doing this will depend on whether the seed has been saved at home or purchased from the seedsman; if the latter, then it will be at least a year before the majority of the seeds germinate. But many of the cultivated species seed freely, and advantage should be taken of this circumstance by sowing them as soon as they are ripe, when the greatest bulk of them will vegetate the following spring or early summer. The compost already spoken of is the best to sow in, using perhaps a more liberal allowance of sand, and the whole may be passed through a coarse sieve. Small-sized pots are the best—say 4 or 5 inches—because the most handy to move; and what is of more importance the smaller mass of soil is less liable to become sodden than that which is larger. The pots being well drained must be filled with the compost, pressing it firm and level in the process. Sow the seed thin and cover lightly; fix the labels and water gently, and plunge the pots to the rim in coal ashes in a cold frame. The only attention they will require for the remainder of the season, supposing the sowing to be done in summer or autumn, will be that of shading so long as the day is long and the sun strong, admitting air sufficient to keep the frame cool, and watering as it appears necessary, and that will be necessary always when the surface of the pots appears somewhat dry. On winter setting in, the frame will require to be protected during severe weather, but on all favourable days air may be admitted freely. On the approach of spring the pots should be examined, any mossy growth that may have made its appearance removed, and a slight sprinkling of fresh soil given along with a gentle watering to finish, when they may be returned to their quarters again. The admission of air so as to keep up a nice temperature in the frame and yet prevent excessive heating, a slight shading as the day lengthens and the sun's rays increase in power, and careful watering as required, are the only points essential to be observed till the plants begin to appear, but the shading should not be used except on bright days, and then only for an hour or two during the hottest part. When the plants appear in reasonable quantity it will be necessary to gradually inure them to more light and air; and while they are yet small and tender they must be carefully handled as regards watering: one rude dash of chilly water may cost the lives of hundreds of tiny plants. When they are fit to handle they must be pricked off into pots or boxes, or, what is better if at hand, they may be turned into a nursing bed or shallow frame in suitable compost, pricking them out an inch or two apart each way.

"The majority of perennial Gentians make but little bulk the first season from seed, and to turn them out of doors in permanent quarters the first winter would be to court disaster; their enemies, in the shape of slugs and other vermin, would soon make short work of their small development of leaf and stem, and the action of frost mechanically on their tiny root-hold would be too trying an ordeal for them to pass through successfully. It is necessary, therefore, to winter them compactly together where they may be protected when required, and where vermin when they appear may be easily given good account of. If frames or handglasses cannot be spared for them a bed of coal ashes kept together by an edging of bricks or boards in some sheltered spot will do very well to winter in, the pots being plunged as much over the rims as is consistent with the safety of the plant, and a few hoops arched over the bed will furnish a suitable framework to support the protecting materials. The plants may be turned out into their permanent places the following spring."

(To be continued.)

TAUNTON DEANE HORTICULTURAL SOCIETY.

AUGUST 15TH.

WHENEVER I want to express my ideas as to how a society ought to be worked and how the public ought to encourage it, it is my custom ever to refer to Taunton as one of the very best examples I know of; and this year not only was no exception to the rule, but it seemed to me to be in advance of those I have previously seen, and I think this is the sixth. The whole town was as usual *en fête*. Large Spruce trees had been cut and planted in the market-place and other localities; there was a large display of bunting; stalls containing such a variety and quality of comestibles as makes one more and more admire the digestion of the Somersetshire yokels, who seemed to go in indiscriminately for whelks and peppermints, pigs' feet and green Plums. Then the gentry of the neighbourhood, instead of holding coldly aloof, not only encourage it by their subscriptions but attend in great force during the day, so that it is no easy matter to get to one's carriage when the gates are closed. Contrast this with our miserable east-country proceedings. There is Canterbury without a society worthy of the name, while other towns have associations which are fully supported and patronised.

The Exhibition was both excellent in quality and large in extent, and I think the supporters of the Society have great reason to congratulate themselves. I have seldom seen a show at which fewer things of bad or indifferent quality were exhibited. The

system of only giving two prizes in each class, although having its objectionable side, does doubtless discourage people from sending indifferent things, as they feel they would have but little prospect of gaining a prize. On this occasion, too, there was no padding—that is, no plants sent in not for competition. Messrs. Lucombe & Pince, having given up exhibiting, were not present, while the awfully sudden death of Mr. Bryant of Bristol prevented his plants from being there; so that it will be seen that there must have been good strength put forth by exhibitors to make such an excellent show. Mr. Cypher was there with his beautifully finished plants, so clean, neat, and well grown; so was Mr. Tudgey, gardener to Mr. Williams of Worcester; while amongst amateurs Mr. Marshall of Belmont occupied the foremost place. His plants were exceedingly well grown, and some of our best and newest introductions were to be found amongst them. The Roses of Mr. Prince of Oxford and the Dahlias of Mr. Dobree were very fine, but we missed altogether the Gladioli of Mr. Kelway. It was indeed a loss, especially to me, as I had hoped (not having been able to stop at Langport, although I passed it) to have seen some of his famous seedlings, but he was not there. Zonal and other Pelargoniums were exhibited in a manner that other places nearer home might well copy; not huge overgrown masses, all hoops, sticks, and ties, but neat compact little bushes, full of bloom and fresh and lively. There was a good display of fruit and a most excellent collection of vegetables, while the cottagers' productions were worthy of all praise. But I think the most marked improvement that I saw was in the table decorations and bouquets. I remember animadverting on these last year, when only two very miserable attempts were exhibited; this year there were five, and of these four were highly creditable. When I say that Miss Cypher took the first prize it will be readily conceived that all that good taste and deft hands could effect was done, and the result was charming. The centre of the table was a nice plant of *Cocos Weddelliana*: the two end pieces being glass stands light and elegant, and the flowers arranged in them being also very elegant and lightly arranged, amongst them sprays of *Francoa racemosa* being very freely used, and a most capital flower it seems to be for decorative purposes. *Plumbago capensis* was also used, and its delicate light blue tint of colour is always attractive. The other three tables were also arranged in good taste, and exhibited a most striking contrast to those of last year. The drawing-room stands were also good, while Miss Cypher's bouquet with its flowers of *Pancreatum* attracted universal admiration. It is not always that so unanimous a consensus of public approval is given to a successful exhibition of table decorations as was given on this occasion to Miss Cypher.

The courtesy and kindly feeling which are always shown at Taunton were not absent on this occasion. Mr. Clement Smith, the able and indefatigable Secretary, and the members of the Committee vied with one another in making everything go pleasantly, and I am sure felt amply rewarded by the success that attended their efforts. I cannot close these few notes without mentioning a laudable attempt to turn the day to good account—the opening of a coffee stall in the town, which seemed to have secured a large share of patronage, and in which the ladies of the house where I was staying (Mr. Newton's of Barton Grange) took a lively interest. They sent in a large number of button-hole bouquets, which were sold at 1d. each, and sold well, one gay Lothario having purchased eleven. Talk of two strings to their bow, what is that to a beau with eleven —? So that altogether promoters of flower shows would do well to take a lesson from Taunton.—D., *Deal*.

RHODODENDRON OCCIDENTALE.

ONE of the grandest flowers I ever beheld is the *Rhododendron occidentale*, or Californian Azalea. It is a native of California, where it grows along streams of crystal water in thickly wooded districts throughout the State. The finest are found in the Sierra Nevada, and the best I ever saw were in the section of county around the Silver Creeks, where they are covered with snow for four months in the year.

Rhododendron occidentale is a shrub growing 3 to 6 feet high; the foliage is the handsomest I ever saw. The leaves are lanceolate in shape, about 4 inches long, and 1 to 1½ inch across, of a rather firm texture when fully developed; in colour they are a bright shining green. When half grown they have all the appearance of being freshly varnished, and, as will be readily admitted by all who have seen it, this bright green foliage is half the charm of the plant, and makes a most charming setting for the large and conspicuous flowers.

The flowers are 2½ to 3 inches long, with a conspicuous calyx composed of distinct oblong sepals; the corolla is usually snow-white with the upper lobe yellow inside. They are sometimes, however, found with rose-tinged flowers. The stamens and style are much exerted, moderately curved, and very conspicuous. The flowers are borne in large clusters of from ten to twenty each. *Rhododendron occidentale* blooms

in the summer, and is constantly in flower during July and August.—W. C. L. DREW (in the *American Gardener's Monthly*).

REVIEW OF BOOK.

The Bulb Garden. By SAMUEL WOOD. London: Crosby Lockwood & Co.

MESSRS. SPOTTISWOODE can print books better than Mr. Wood can write them. The very title of the book is a misnomer, for it implies that all the plants treated of are bulbs, whereas in fact only a very small portion of them belong to that category. The author himself reminds us that it is through ignorance that he has dragged in so many plants under the title, for he makes a sort of quasi apology in the case of one plant, *Saxifraga granulata*, which he says "can scarcely be classed in the category of bulbs, yet it is a bulb." There is only one way of meeting a distinct assertion of that kind which is calculated to mislead, and that is by a distinct denial. *Saxifraga granulata* is not a bulb, but a hardy herbaceous plant, producing small granular tubers. As no apology is advanced, nor excuse made for including other plants under the heading of bulbs, we can only conclude that the author does not know what a bulb is. He appears ignorant of the very rudiments of his subject, and ought not to be encouraged to circulate a mass of inaccuracies. *Lychnis fulgens* is described as a "tuberous-rooted bulb," whatever that means, whereas it is a hardy herbaceous perennial. Then alluding to the Winter Aconite the author remarks that "it is almost superfluous to write about this common, little, hardy, 'bulbous' plant." It is a not a bulb at all, and we must say that we never saw it associated with more sentimental rubbish than in this book. The author claims above all things to be plain and practical, but the Winter Aconite appears to have prompted him to try his hand at poetry, for we find amongst more of the same character such lines as these:—"Ah! pretty little flower, let no one ever despise thee on account of thy smallness or colour. Thou hast a voice like the Rose or the Lily, or the less gay songster among the feathered tribes." Then we have amongst other "bulbs" chapters on the Hepatica, the Hellebore, the *Dielytra*, the *Agapanthus*, the *Calla*, the *Lily of the Valley*, *Solomon's Seal*, and other herbaceous perennials. Then *Cyclamens*, *Begonias*, *Irises*, and even *Ponies* are included; it is a wonder that *Primroses* and *Violets* were not added, but perhaps their omission was an oversight.

We regret very much that any gardener should have been tempted to display his want of knowledge by compiling such a book as the one before us, for it cannot but convey to the general public who read it much that is flagrantly erroneous, and which ought never to have been published.

As to the practical portion of the volume, we have only to remark that equally good information is supplied gratis to purchasers of bulbs in the catalogues of the principal nurserymen and seedsmen. Amongst other things we are told that £2500 per acre can be realised by growing *Hyacinths* in England—information, we presume, for the "speculative professional man" referred to in the preface. Modern cultivators will wonder that no mention is made of the value of *Solomon's Seal* for forcing in the chapter on that plant, and they will smile at the display that may be made by planting three *Triteleja* bulbs in a 48-pot, knowing that three times three are necessary; but compensating information is supplied in the sentence that *T. uniflora* may be planted in "dwarf beds."

But while many plants are included in the "Bulb Garden" that are not bulbs there are omissions of other plants that might legitimately have had a place in the book. Snowdrops are mentioned, but not *Snowflakes* (*Leucojums*), neither are *Roman Hyacinths*, *Muscari*, *Lachenalias*, *Tritonias*, *Guernsey* and *Belladonna Lilies*, *Tigridias*, *Antholyzas*, *Cyclobothras*, &c., all of which are popular decorative plants of the type which one might expect to have found mentioned in a book of this description.

We have referred to this book at greater length than we otherwise should have done in order to convey warning to those who may be really good practical gardeners not to jeopardise their reputations by attempting to write on subjects that they do not understand. We cannot join the author in recommending the book either to the "amateur or the speculative professional man."

SEXUAL CONDITIONS IN THE RED MAPLE.—It is commonly stated that Maples bear hermaphrodite (male and female) flowers, but Mr. Thomas Meehan of Philadelphia

asserts that the Red Maple is, according to his observations, really dioecious, having only flowers of one sex on the same tree. But the male and female flowers are similar in outward appearance at first opening, except that the small pistil is not developed in the male flowers. The female flowers have anthers of full size, and are supposed to be of both sexes, but the fact is that the anthers do not develop after the flower has opened, and shed no pollen. This is a very remarkable survival from a condition when the flowers were perfect. It is not uncommon to find trees originally female sending forth male branches, but Mr. Meehan has not found male trees produce female branches. The male flowers were found fragrant, the female not so.—(*Nature*.)

DENNSTÆDIA DAVALLOIDES YOUNGII.

SEVERAL months ago I purchased a plant of the above Fern, or rather a Fern bearing the above name, for I am now in

doubt whether my plant is rightly named. When it was received it was in a small pot, and was dwarf in growth and had very finely cut bright green fronds. The plant was potted in a mixture of turfy loam, leaf soil, and charcoal—no peat—and was grown in a moist shaded place in a cool stove or intermediate house. It has grown with great luxuriance, and instead of being a low-growing *Davallia*-like plant as I supposed it would be, it almost as much resembles an *Alsophila* but without its coarseness. I have asked the advice of two neighbouring gardeners and am now more puzzled than ever, for one says my plant is true and the other that it is not. Fronds are produced nearly 4 feet long and with very thick stems, which grow nearly upright and then arch gracefully. I am not disappointed with my plant, for while it is robust it is yet elegant; but my doubt is that it is true to name. Can you enlighten me?—W. B. L., *Lancashire*.

[We think your plant is correctly named. *Dennstedtia davallioides* Youngii is a stately-growing yet graceful Fern,



Fig. 21.—DENNSTÆDIA DAVALLOIDES YOUNGII.

as the accompanying truthful engraving, obligingly sent to us by Mr. B. S. Williams, sufficiently represents.—EDS.]

NOTES AND GLEANINGS.

By what we have seen in more places than one we are satisfied that a word of warning is necessary against withholding water to such an extent, as appears yet too common, from the roots of VINES IN POTS with a view of ripening the canes. Only evil can result by permitting the foliage to flag and become prematurely brown by allowing the roots to become excessively dry. The roots must be kept in a fresh healthy state, and the leaves should be encouraged to retain their green hue, and their change should be as gradual as possible. With heat, light, and air the canes will mature admirably without drying the roots extremely, and plumper

buds in autumn and better bunches in spring will result than if the Vines have been erroneously checked and starved with the view of accelerating the maturation of the wood.

— ONE of our contemporaries, who is distinguished for his hypercriticism and occasional abortive attempts at wit, tells his readers that "whatever may have been the riches of the Hanging Gardens of Babylon, it is pretty certain that, all things considered, they were not excelled by what may be seen in some of the west-end squares." He then counsels his readers to visit "an area decorated with a dozen hanging baskets variously furnished." (!) We often hear of descents from the sublime to the ridiculous, but a greater descent could hardly be imagined than to compare the glorious terraced gardens of Babylon with a dozen hanging baskets in a west-end London area—a dozen of the "biggest Gooseberries" we have heard of this year.

— WE never remember having seen FOREST TREES so green and luxuriant in harvest as during the present year. Having recently traversed the district of Cobham Hall near Gravesend we could not fail observing the exuberant foliage of the fine avenue of Elms in Lord Darnley's park. The country lanes, too, on the Cobham estate are now extremely beautiful, the foliage of the trees of the woods on either side completely arching the roads, forming refreshing canopies of foliage, and the trimness and neatness of the roads and hedges impart additional pleasure to the visitor driving through this beautiful and richly wooded district. All kinds of trees appear to thrive equally well; but especially noticeable are the Sweet Chestnuts, many of which are bearing good crops which ripen, and are collected for the deer in the park. A portion of the undergrowth of the trees consists of Rhododendrons, and the appearance of these shrubs and the manner in which they bloom in the spring afford evidence that they are about the best of all evergreens for growing under the shade of trees.

— FROM Cobham above mentioned a pleasant drive leads to Gads Hill, where the residence of England's great novelist, the late Charles Dickens, is the centre of attraction. CHARLES DICKENS' GARDEN is small, but evidently has been, and is now, cherished. The house stands back some 40 or 50 yards from the public road, and the front up to the bay windows is staged for accommodating pots of scarlet Geraniums. At the extremity of the lawn next the road is a thriving pair of Deodars which had probably been planted by the late owner, and the garden on the opposite side of the road contains a grand pair of Cedar of Lebanon, also flower beds and ornamental shrubs. A subway formed under the road connects the two gardens, which are in excellent keeping, and are not less enjoyed by the family in residence than by the thousands of visitors who pay a passing glance at the home of one whose name will be cherished long after the trees that he planted have crumbled to decay.

— IT has frequently been stated that, provided VINES have good attention, they will yield good crops when no specially prepared border has been formed for the roots. A good instance of the truth of this is afforded by a large vinery at Coombe Bank. When the house was erected it was intended for plants, but Mr. Moorman decided to try some Vines as well. Several varieties were planted in the ordinary garden soil. During the growing season the soil was top-dressed with manure, and abundance of water was given to the roots. The result was splendid canes, and a crop of remarkable weight was produced the following (this) season. The canes made this year are also excellent, being as thick as a man's thumb and studded with bold eyes. The soil is light and gravelly, such that grows Conifers and Hollies splendidly. The health of the Vines is no doubt attributable to the manurial top-dressings and heavy waterings, efficient drainage being secured by the natural porosity of the soil. The Vines are probably as good as they would have been if the most expensive and elaborately prepared border had been made for them.

— THE quantity of SCARLET RUNNER BEANS now being sent up to the London markets is very extraordinary. One salesman in Spitalfields Market receives upwards of a thousand bushels weekly from one parish in Essex. The variety of Runners fetch better prices, are more productive, and consequently on the whole more remunerative than the larger varieties of the Champion type—a fact intending growers for market ought to take note of.

— A CORRESPONDENT, "G. H. V.," writing from Retford in reply to Mr. Godward on page 132, states that EUCALYPTUS GLOBULUS, about 12 feet high, has been in magnificent flower this year, but both of the trees are now dying, and he has seen the like at Garnons, Hereford. — In reply to F. Finch we can say confidently that in England Eucalyptus globulus is a rapid grower, and Mrs. Brassey informs us in her "Voyage of the Sunbeam" that in Tenerife a specimen grew 115 feet in seven years.

— MR. COSSOM, gardener to Mr. Campbell-Bannerman, M.P., at Hunton, Kent, tells us that a LYGODIUM SCANDENS, started into growth at the middle of January, completed by the beginning of May an aggregate growth of 384 feet. The plant was potted into a 13-inch pot in the early part of 1877, and has not been potted since. The longest separate growth is 16 feet 6 inches.

— THE Round-leaved Maple, ACER CIRCINATUM, Pursh, is, says the "Journal of Forestry," one of the most effective and striking of hardy deciduous trees of a medium size. It

was introduced to Britain in 1826 from the north-west coast of North America, where it grows to a height of from 30 to 40 feet. It is easily distinguishable by its regularly fan-shaped leaves, which are deeply cut into seven or nine sharply pointed lobes, and when first expanded are of a lovely reddish green colour. Its flowers are produced in May in considerable profusion, the petals being pure white, in fine contrast to the deep red of the sepals and long peduncles. The bark of the young shoots is also of a reddish colour, and in the autumn the leaves acquire a beautiful tinge of yellow and red as they ripen and decay. The branches are of a slender and pendulous habit, giving character to the tree in winter. Planters on the look-out for a moderate-sized ornamental tree would do well to devote some attention to this beautiful Maple, which will grow well in most parts of the country.

— No one, says "The Gardener," and we fully concur, who has a demand for decorative plants and cut flowers all the autumn and through the winter, should neglect the good old CYPRIPEDIUM INSIGNE: it is so hardy and accommodating, flowers so freely, and lasts so long either on the plants or when cut. We have this variety in all sizes of pots, from 14 inches down to 5 and 6 inches, bearing from three to four dozen blooms in a plant to five or six, according to the size of plants. No plant or flower bears the atmosphere of a sitting-room better, consequently it is invaluable for room decoration.

— FOR covering the wall of a stove densely and closely few plants are better adapted than FICUS REPENS MINIMUS. We recently saw a wall in the gardens of N. Clayton, Esq., Lincoln, covered with this Ficus, and the effect produced was extremely chaste. The small leaves and shoots adhere to the wall as tenaciously as if they were glued there, forming a smooth dark green surface that cannot fail being admired. But although this plant covers the wall of a stove so well, it will thrive in a cooler temperature; indeed, we remember having seen in Mr. Kinghorn's nursery at Richmond some sprays that had forced themselves from the interior of the stove through crevices in the brickwork, and were clinging healthily to the wall outside, where they had passed the winter uninjured. The plant also appears to thrive well in shaded positions.

— ASPARAGUS GROWTH, says a correspondent, at this time of year ought to be more generally used for working-in with cut flowers in vases, &c. It is also admirably adapted for covering archways and pillars at harvest thanksgivings, flower shows, &c. One of the prettiest effects imaginable can be obtained by using Asparagus, the side shoots of the variegated Maize, Asters, and Dahlias for an archway. They not only look remarkably light and pretty, but also last well. The Asparagus should be allowed to hang naturally, the main stem only being tied, and where too long should be cut into shape. If the growth is cut discriminately the plant is not injured, but is rather benefited by the thinning.

— FROM an excellently compiled table on the PICEA NORDMANNIANA by Robert Hutchison of Carlowie we observe that the highest tree noted is at Whittinghame, East Lothian, where it grows at an altitude of 340 feet, in a reddish clay soil upon a subsoil of red sandstone naturally well drained. It was planted twenty-nine years ago, and is now 60 feet high, with a circumference of stem at 3 feet from the ground of 4 feet, and is very healthy and vigorous, and branched to the ground. The next tallest tree amongst those noticed are at Kilravock Castle, Inverness, 50 feet 3 inches high; Dunmore, Stirlingshire, 50 feet high; and Bicton, Devonshire, 48 feet high. In advocating the more extensive planting of this valuable Conifer in our woods and plantations Mr. Hutchison observes: "It will be found most profitable and advantageous to use seedling plants reared from the cone in home plantations; indeed, this is true of all the new Conifers. They suffer less from spring frosts when planted out into the sites they are destined to occupy direct from the seed beds in which they have been reared than plants do which are fetched from a distance, and which we find it requires years to acclimatise in their new homes, leading to many failures, loss of leaders, and to a host of other drawbacks, which do not arise in the use of home-grown nursery seedlings."— (*Journal of Forestry.*)

WORK FOR THE WEEK.

KITCHEN GARDEN.

Sow Lettuce to stand the winter for spring use of the varieties enumerated on page 114. If the ground be light and rich it should be well trodden before sowing, as the plants are not only hardier

but form better hearts than when grown in loose soil. An open yet sheltered situation should be chosen, and to save transplanting sow in rows a foot apart, thinning the plants to 9 inches distance. In cold localities sow on warm borders, or transplant thereto early in October. If sown about a foot from the base of a wall with an east aspect and thinned to 9 or 12 inches distance apart they stand much better than in the open during a severe winter. A sowing of Cauliflowers should also be made in an open situation for pricking off in frames or under handlights in October. Dwarf Erfurt Mammoth, Early London, and Walcheren are those we give preference to for this sowing. Good breadths of Lettuce should be planted for autumn and winter use, also Batavian and Curled Endive, taking advantage of dry weather to tie-up Endive in a sufficiently forward state; also Cos Lettuce, which is liable to grow open at this time of year. Any strong plants of Cauliflower may still be planted, and if the autumn be mild they will be serviceable for lifting when the heads are 3 or 4 inches across, and planting in frames, &c. Let all ground falling vacant from crops of Peas, Beans, Potatoes, Cauliflowers, &c., be cleared and occupied with Winter Greens, saladings, or there is yet time to secure a crop of Turnips by selecting the early varieties; the crops, however, should be of such a kind as will not interfere with next year's cropping. Onions are ripening-off earlier than usual, and may have the tops laid down for the sake of appearance; but it will not alter the size of the bulbs, indeed those that keep the heads erect the longest afford the largest bulbs, yet bending down facilitates ripening. Cut, if not already done, herbs for drying, in order to have plenty to meet any demands that be made for them during the winter.

FLOWER GARDEN.

Carpet beds, whatever objection may be taken to them, are now in great beauty. This style of bedding is becoming more popular every year, and will be more popular still, inasmuch as many of the plants do not require nearly so much care and attention in wintering as Pelargoniums, &c. Sedums, Saxifrages, and Sempervivums are quite hardy, as also are many others, whilst those that are tender need only be wintered as stock plants, and propagated from to almost any extent in spring. Propagation of many of the plants may now be proceeded with. Sedums and Saxifrages may be divided and planted in any place where not too much shaded and where the soil does not become soddened from too much water, and Sempervivums should be inserted in firm soil. Echeveria secunda glauca may have the offsets inserted closely together in boxes or pans. All that is wanted is to firm the soil well around the base of the offsets, and placing the pots outdoors in the full sun. E. retusa strikes freely from cuttings, and E. metallica may be propagated from leaves, but the young leaves only are available. The great bane of Echeverias in winter is damp, but by care in watering and with a light roof they may be wintered without loss. It is not necessary to propagate a great quantity of Mesembryanthemums, Alternantheras, Lobelias, Iresines, or Coleus, yet the needful stock must be raised for propagating in spring. Similar remarks apply to such flowering plants as Verbenas, Petunias, Ageratums, &c.; but Pelargoniums should now be propagated to the full extent for next year's supply, most of the kinds striking readily upon a sunny border provided the soil be well firmed about the base of the cuttings. Cuttings inserted now will be ready for potting at the end of September. We (for want of room to winter the plants in single pots, which is by far the best plan) insert the cuttings in boxes about 3 inches deep, 2 feet long, 13 to 15 inches wide, and place them in the full sun, housing them before frost. Go over the beds frequently for the removal of spent flower trusses and dead or decayed leaves, keeping the lines and divisions well defined by constant pinching. Weeds, too, must be kept from the walks, those and the grass well rolled, the verges regularly cut, and the machine run over the lawn frequently to maintain a neat appearance throughout.

Cuttings of Hollyhocks may now be inserted in gentle heat in a frame, shading them from sun until rooted, also Dahlias of any new varieties. Pansy cuttings strike freely now in cold frames or in borders kept moist and shaded from sun; also save and sow seed of Pansies, Polyanthus, Auriculas, and Anemones. Carnations may yet be layered. Roses may yet be budded; the Tea-scented and China strike freely under handlights on a north border, selecting ripe wood. Seedling biennials or perennials must not be allowed to become drawn in the seed bed, but must be pricked off; those already pricked off and requiring more room may be planted in their flowering quarters, particularly Wallflowers and others required for early bloom. Cut back the rampant growths of Roses so as to throw more vigour in the flowering shoots, removing all decayed blooms, and make all neat not only as regards the plants and beds or borders but the surroundings. Cut away the flower stems of herbaceous plants as they go out of bloom, keeping all about the plants clean and tidy. Evergreens having completed the growth and the wood become firm may safely be transplanted in moist weather, and the work being carefully performed the plants will receive no check but will root freely in the warm soil. Complete the cutting of hedges, screens, &c., without further delay. Holly and Laurels should only have irregularities removed, and never with the shears, which mars their

appearance for a considerable time. Any irregularities in the growth of shrubs may also be removed, giving them a neat appearance for the remainder of the season. Propagation of evergreens from cuttings may now be proceeded with, the wood being firm.

FRUIT HOUSES.

Vines.—Those in the earliest forced house will be casting their leaves and should have all the ventilation practicable, and the border allowed to become as dry as is consistent with the preservation of the roots. The Vines should be pruned at the end of the present or early part of next month at latest, the house thoroughly cleaned, repaired, and if required painted, the Vines being dressed, removing no more than the loose bark, and washing the rods, &c., with a solution of soft soap 8 ozs. to the gallon of water. If there be any scale or mealy bug a wineglassful of paraffin may be added, with flowers of sulphur to bring it to the consistency of cream. Apply to every part, after mixing thoroughly, with a brush. The borders both inside and outside should be cleared of the old mulching material and the loose surface soil, and have a top-dressing of turfy loam with about a fifteenth part of bone dust incorporated. If the border be dry a moderate watering should be given and the house kept as cool as possible.

Vines started late in the spring will need to be excited by sharp-firing, so as to have the fruit well ripened by the middle or end of next month at latest, maintaining a night temperature of 70° to 75° or 80° by day, up to 85° or 90° with sun, this being the period to make up for lost time instead of deferring firing until the Grapes show colour, as they may not do until September is well advanced, prolonging the ripening into October or later. Grapes so ripened do not keep plump or satisfactorily to a late period. The atmospheric moisture, as well as that at the roots, must be kept up in proportion to the condition of the Vines and the temperature maintained, accompanied with free ventilation so as to accelerate the ripening process. Vines in other houses that were started in good time will be well advanced towards ripening, and should have the atmospheric moisture reduced gradually without giving more fire heat than to keep up a circulation of dry warm air, which will be all that is needed to secure well-ripened wood and highly finished fruit. Vines from which the Grapes have been cut must have all laterals closely stopped, and a dry warm atmosphere with abundant ventilation maintained to insure the thorough maturation of the wood. With a view to the preservation of the foliage give a good washing with the garden engine on fine evenings, especially if there be traces of red spider.

Peaches and Nectarines.—If any planting or lifting of trees for early forcing require to be performed soil should now be procured and stacked, which will reduce the turf considerably before it is wanted, and will be in a more suitable condition than if used fresh. Strong turfy loam with a fourth or sixth part of marl, according to the character of the loam, forms an excellent compost, and this without an admixture of dung or other material will grow Peaches of the finest quality. New borders must have efficient drainage, the bottom of the border being concreted if the strata beneath the drainage be unfavourable, or better laid with brick on flat and run with cement, the border being further enclosed with walls so as to confine the roots. It is essential that the drains have a proper fall and outlet, rubble being placed over them 9 to 12 inches thick, and turf grass side downwards upon it. The borders should be 30 inches deep, and be ready for planting by the end of September. Trees of three or four years trained to walls should be chosen, and if lifted carefully they will experience little or no check. The best kinds for early forcing are Early Beatrice, Early Alfred, Hale's Early, Royal George (best of all), Noblesse, Grosse Mignonne, and Stirling Castle, which will give a lengthened succession of fruit. Of Nectarines plant Lord Napier and Elruge. The trees should be planted inside, but with access for the roots to the outside border.

In the earliest-forced house the leaves will soon be off, when loosen the shoots from the trellis, clean the house, seeing to the needful repairs, and painting of the woodwork and trellis. The mulching and loose surface soil should be removed and replaced by fresh loam with a twelfth part of bone dust and a twentieth of wood ashes, affording a moderate watering if the border be dry. Whatever pruning is required should be done so soon as the house is put in order, but if the trees have been properly attended to very little work will require to be performed by the knife, and dress the branches with soft soap, 8 ozs. to the gallon of water; if there is any scale add a wineglassful of spirits of turpentine, with as much tobacco juice as the solution will admit of without curdling, which is about half that of the soap solution. The trees in all but the very latest houses will soon be cleared of the fruit. Thin-out all shoots not required, so as to admit light and air, and if the wood be at all green and sappy turn on the heat, giving all the air practicable night and day. The circulation of warm air will tend materially to ripen the wood and plump the buds. Trees that have ripened their wood may be fully exposed to the weather. See that the borders do not want for water, especially those inside, and syringe the trees well with the engine if there be any traces of red spider.

PLANT HOUSES.

GREENHOUSE.—*Cinerarias* for early flowering shift into the

blooming pots if not already done. Six-inch pots are a useful size for general decorative purposes, but for extra specimens 8-inch pots are not too large. The plants do well in four parts of turfy loam, one part each old cow dung or well-decayed horbed manure, and leaf soil, with a free admixture of sand. They should be grown in frames or pits upon ashes always kept moist, and have shade from fierce sun. In a dry atmosphere they become infested with thrips, which with aphides must be kept under by repeated moderate fumigation, or, what is more certain, dipped in tobacco juice diluted with six times its bulk of water. Pot off later-sown seedlings and offsets or rooted cuttings for spring blooming, placing them in cold frames to be kept close and moist until the plants are established.

Cyclamens will soon be active, and should be potted before they have made many fresh roots. In potting it is only necessary to remove the old soil that comes away freely, and the surface soil, rectifying the drainage: keep the combs about three parts out of the soil, their upper parts being level with the rim of the pots. Pot moderately firm, using good loam with a fourth of well-decayed manure and a similar proportion of leaf soil, providing good drainage. Place the pots on ashes in a cold frame, and water as required, yet avoid overwatering. Seedlings sown this spring will now be in the blooming pots. Do not overpot them—a 4 or 5-inch pot will be sufficiently large, and for older plants 6 or 7-inch pots. Seedlings shifted into the flowering pots early in July will have made good progress, and should have air very liberally, and slight shade only from bright sun.

Primulas sown in spring shift into the flowering pots if not already done, for if longer delayed they will not fill the pots with roots to flower satisfactorily. The soil mentioned for *Cinerarias* will grow them satisfactorily. Keep the plants near the glass, allow them plenty of room, and admit air freely, affording shading to break the fierce rays of the sun. Remove all trusses of bloom until the plants are strong and have filled the pots with roots. Pot-off and shift into larger pots plants from later sowings.

Lachenalis pot, they do well in turfy loam with a little leaf soil, affording a light airy situation near the glass; also *Tropæolum tricolorum*, T. Jarratti, &c., taking care not to break off the growths. They do well in sandy loam with a little leaf soil, covering the tubers an inch or so deep, placing them in a light situation, and securing the growths to trellises as they advance. Few plants are finer than Guernsey and Belladonna Lilies in late September or October. Grown in pots or pans they are very effective, and should have the bulbs entirely covered with soil—good rich loam, and if the pots or pans be surfaced with *Selaginellas* it will materially add to their good appearance. They should be placed near the glass in a cold pit, being kept moist and rather close. Procure the bulbs before they have pushed the scapes more than an inch or two.

Pot a quantity of Roman Hyacinths for early flowering. If for cutting they may be placed about 2 inches apart in pans or boxes, employing turfy loam with a fourth of well-decayed manure. In potting just leave the crowns clear, and place the pots in a cold frame, and cover with ashes or cocoa refuse to the depth of 4 to 6 inches. Paper-white Narcissus and double Roman Narcissus should also be potted without more delay for early bloom, treating similarly to Hyacinths, only they require a little more room. When they have rooted and the growth from the crowns is an inch long place near the glass in a light airy house, having a minimum temperature of 50° to 45° from fire heat.

Pelargoniums cut down, letting the soil become dry before doing so, placing at once in a pit or frame, as they must not become saturated with water, but be kept rather dry until fresh shoots are made. Cuttings may yet be inserted of the thoroughly ripened wood, inserting them around the sides of pots about 1½ inch apart and place them in a cold frame shaded from sun; they will soon root, and may be potted singly in 3-inch pots in turfy yellow loam with a fourth part of leaf soil and a sixth of sand, draining the pots well, wintering near the glass in a light airy house, cool but safe from frost. The earliest-cut-down plants should be turned out of the pots before they have grown too much, or they will receive a check not favourable to the aftergrowth. Young plants that it is desirable to grow on should only have the old loose soil removed, merely shortening any very long roots, but those that are as large as required may have the ball and half or more of the roots cut away. Pot firmly in small pots. Place the plants in a light airy pit or house, sprinkling them overhead every afternoon.

Camellias that require a shift into larger pots and have the buds about the size of peas—not larger, better if a little less in size—may now be potted. Do not give a large shift, as the roots do not require so much space as those of most plants, and be careful in removing the crocks not to injure the roots, merely removing any loose soil and decayed roots. Drain well and pot firmly, using lumpy loam stacked no longer than to effect the death of the grass, it being taken about an inch thick from a pasture with its turf. Water copiously, yet avoiding making the soil sodden. An addition of a third part sandy peat may be added if the plants are young with a little leaf soil, but we employ loam only with the best results.

TRADE CATALOGUES RECEIVED.

James Carter & Co., High Holborn, London.—*Illustrated Catalogue of Bulbs, Plants, Roses, &c.*

Sutton & Sons, Reading.—*Illustrated Catalogue of Bulbs, Plants, and Garden Requisites.*

The New Plant and Bulb Company, Lion Walk, Colchester.—*List of Imported Orchids.*

W. Cuthbush & Son, Highgate, London.—*Descriptive Catalogue of Hyacinths and other Bulbs.*

Dickson & Robinson, 12, Old Millgate, Manchester.—*Dutch Bulbs and Roses.*

Louis de Smet, Ledeborg-lez-Gand, Belgium.—*Autumn Supplementary Catalogue of General Decorative Plants.*

TO CORRESPONDENTS.

* * * All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense. Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (*Aspirant*).—You can obtain them by ordering your bookseller to procure them.

EUCALYPTUS GLOBULUS.—The Gardener, Swanmore Parsonage, Ryde, Isle of Wight, wishes to know where he can obtain seed of this Eucalyptus.

SEEDLING PHLOX (*R. J. W.*).—It is a pretty variety of Drummondii, but not new.

SCARLET-FLOWERED CLIMBER (*K. T.*).—We can only suggest that the plant to which you refer is *Tropæolum speciosum*.

PINK BEDDING GERANIUM (*Manx Cat*).—The variety to which you allude as being so effective in Kensington Gardens is Mrs. Turner. It is quite one of the best of its colour, especially for large beds.

GRAPES SHANKING (*E. F. W.*).—We fear you cannot arrest the shanking of the present crop, but you can arrest the decay of berries that are not shanked by a freer system of ventilation and maintaining a drier atmosphere. The wood and bunch suggest that you keep the vinery too close and moist, and also that the Vines are deficient of surface roots. If before you start the Vines next spring you remove the surface soil from the border, baring the roots and lifting some of them, and cover them with a fresh compost of rich turfy loam, you will induce the emission of surface roots, and shorter-jointed wood and better Grapes will follow. Surface roots will form the more quickly if you can place fermenting material on the surface of your Vine border after you have applied fresh soil.

SOWING APPLE SEEDS (*Pomona*).—Dr. Harvey's statement is quite correct. He does not say that buds from the Crabs recur to the Sweet Apple.

ASTERS (*Mr. Hakeman*).—The plants are evidently well grown, and the blooms are good of their kind. They appear to be intermediate between the quilled and imbricated Aster. Although effective for garden decoration, they are deficient in symmetry and refinement, and do not, we think, possess special merit.

VINES SCORCHED (*Amateur*).—There is nothing seriously the matter with the leaves, they being quite free from insects. The yellow spots are a result of inefficient early ventilation during the late hot weather, accelerated by the vigour of the Vines, which alone is sufficient to account for the discoloration, whilst others in the same house escape.

CLIMBING PLANT UNDER PROJECTING EAVES (*G. H. H.*).—You say that nearly every plant you have tried upon your sunny sheltered west wall, over which the eaves of your house project, becomes covered with insects and filth. The best advice we can give you is to syringe the plants thoroughly once a day during the season of growth, except when they are in bloom. If you cannot do this then plant *Cotoneaster microphylla* or Ivy. Any enthusiastic gardener would highly value such a snug wall in your sunny western county and fine climate. The Pomegranate would no doubt thrive well under such advantages, so would the Myrtle. We hardly need point out the superior advantages of such a position for securing an early supply of tender Tea-scented Roses.

LETTUCES FOR SPRING (*Amateur*).—It is not too late to sow Lettuce seed for raising plants for standing the winter. Sow at once the Black-seeded Bath Cos and Hardy Hammersmith, and any other approved varieties. The other information you require is supplied in "Work for the Week."

GRAPES COLOURING (*D. E. F.*).—You have been wrongly informed. Inside borders must not be kept dry after the Grapes commence colouring, but, on the contrary, if the soil is porous and well drained a good soaking of water will be highly beneficial.

BEDDING IN THE LONDON PARKS (*E. York*).—The flower beds are probably as good now as they will be at any subsequent date. They will be worthy a visit any time from now until the middle of September. Hyde Park is readily reached by omnibus from the Bank, Battersea Park by river from any of the piers, and Victoria Park by rail from Liverpool Street to Cambridge Heath station.

ROMAN HYACINTHS (*W. P. T.*).—These are much smaller than the Dutch Hyacinth and flower earlier. The flowers are pure waxy white, and highly suitable for cutting for bouquets and vase decoration. The bulbs should be potted early in September, placing about five in a 48-sized pot. If strong, each bulb will produce three or four spikes of flowers. They should be potted in rich sandy loam and be buried in ashes until growth takes place, then removing them to a shelf in a light house. They flower from November onwards, and are well worthy of cultivation.

PEARS DISEASED (*B. H. P.*).—We suspect your Pear tree is growing on a

rather poor sandy soil, and is not sufficiently nourished. Dig-in a good dressing of well-rotted dung all round the roots.

MAGGOTS IN PLUMS (*R. T. Crochurst*).—The red grub of the Plum is the larva of a small moth, *Tortrix nigricana*. Köllar says, "Our first endeavour must be to get the Plum-grub from the tree as soon as possible. If we see, for instance, that a Plum begins to ripen before its usual time we should shake the tree to make that Plum fall, and immediately convey it out of the garden. The shaking of the tree must be continued several days, because there may be Plums containing caterpillars that are not sufficiently ripe to fall at the first shaking, though these Plums always appear to ripen much sooner than the others, as the severe wound which the Plum has received brings on a premature ripening. The fallen grub-eaten Plums should all be picked up immediately, because the caterpillar does not remain long in the fruit lying on the ground, as it has in general attained its utmost size before the fruit falls."

NAMES OF FRUITS (*L.R.*).—Irish Peach. (*A Subscriber*).—1, not known; 2, Irish Peach.

NAMES OF PLANTS (*Mrs. Holmes*).—1, *Aconitum Napellus*; 2, *Francoa appendiculata*; 3, *Scrophularia aquatica* fol. varieg.; 4, *Potentilla elatior*; 5, *Geranium lancastriense*; 6, *Sedum oppositifolium*. (*G. L.*).—*Clematis Flammula* or Sweet-scented Clematis. Propagate by layers in September, or by cuttings under a handlight in summer. (*F. T. F.*).—*Spergularia arvensis*, *Cnicus palustris*. (*On Garçon*).—1, *Veratrum nigrum*; 2, *Pentstemon Hartwegii*; 3, *Mentha rotundifolia* foliis variegatis. (*G. M.*).—1, *Pyrethrum Parthenium*; 2, *Senecio*; 3, *Potentilla Rector*; 4, *Teucrium Chamedrys*; 5, *Sedum hybridum*; 6, *Aster laevis*; 7, *Chrysanthemum discoid.* var. (*Jan.*).—1, *Davallia canariensis*; 2, *Araujia racemosa*; 3, *Styrax officinalis*. (*W. M.*).—2, *Hyssopus officinalis*; 2, *Origanum vulgare*; 3, *Thymus vulgaris*. (*J. W. B.*).—1, *Campanula isophylla*; 2, *C. muralis*. (*Somerset*).—1, *Hypericum hircinum*; 2, *Hypericum Androsæmum*; 3, *Solidago serotina*; 4, *Sedum spurium*; 5, *Hyoscyamus niger*; 6, *Chlora perfoliata*. (*Flora*).—*Atriplex hastata*. (*F. S. F.*).—*Chenopodium polyspermum*. (*W. Dickson Hoyle*).—Parsley-leaved Vine called *Cicotat*. (*Dr. Parry Hodges*).—*Bocconia jeddoensis* It is a perennial herbaceous plant.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

CULTIVATION OF TRIFOLIUM.

TRIFOLIUM INCARNATUM, or Italian clover, first attracted notice in this country as a flower for borders on account of its deep crimson blossom. It was soon, however, understood to possess valuable properties as a fodder plant, and notably for its early growth, but the cultivation was found at first to be difficult. The farmers were so imperfectly acquainted with the best mode of preparing the land, that a few years after its first introduction it well nigh went out of cultivation altogether. Being one of the first successful growers of Trifolium we continued to grow it through evil report and good report, and an article upon its cultivation contributed by us about thirty years ago assisted in keeping the subject before the public. It has now obtained such a firm hold on the estimation of growers that its growth is general throughout the kingdom, and it is valued as a green fodder crop beyond all others, more particularly from its being not only extremely productive but at the same time most nutritious. We have always remarked that all kinds of stock, whether of sheep, cattle, horses, or swine, are not subject to the scour whilst feeding on it, as they often are whilst eating vetches, rye, &c.

The preparation of the land is of prime importance, and Trifolium differs in most respects from other varieties of clover in requiring the land to be clean and at the same time firm. Ploughing the land, let it be treated ever so well afterwards by harrowing for a fine tilth and rolling to obtain firmness, is found not to answer so well as to select a wheat, oat, or barley eddish, fork out any lumps of couch, and then scarify the surface as shallow as possible—just deep enough to destroy the weeds and obtain sufficient loose mould to bury the seed. Better still is to choose a stubble field after any cereal crop, sow the seed, then drag and harrow to bury it, and lastly to use the chain harrow, and finish off the land with a heavy ring roller, rake off and carry away any rubbish and stubble, then strike and make out the land and water furrows.

In choosing the seed we should decide at what period we require the fodder, as we have now three different sorts at least, which produce a crop at three different periods, instead of formerly. When Trifolium was first grown we then had but one sort, the early sort of a rich crimson colour, whereas we now have a second early sort of a pink-coloured blossom, and the latest of

all is known by its perfect white blossom. We can sometimes obtain a late red variety, but it cannot be so well depended on to give the latest crop as the white. These three sorts may all be sown in the autumn, and will give a capital succession of green fodder from the 1st of May until the 20th of July if sown in certain quantities of each kind. It is, however, now the practice for particular requirements to make a succession of sowings in the spring months of the two earliest varieties, so that the fodder may come for use after the autumn sowings are used. If we sow the seed at any period in the spring and allow about twelve or fourteen weeks for its growth, capital crops can be obtained for green fodder down to the middle of October. The seed may, therefore, be sown at any time between the 1st of March and the 20th of May, and insure a succession of this valuable green fodder from the first week in May until the second week in October. The best time for sowing in the autumn is immediately the corn is cleared, and all three sorts should be sown at the same time. Although the late white sort does not come for use until last, yet it requires to be sown early, as it grows slowly and is a more delicate and tender plant than the other varieties. It is necessary, therefore, to have the plant strong and well established before the severe weather of winter begins. The chief advantage of early sowing is that we are more likely to avoid the depredations of the little white slug, which is almost the only insect enemy to be feared, and these seldom affect the plant much until the autumn rains and long nights commence. So important is this crop in our own estimation that we recollect some twenty years ago, when the first sowing of 20 lbs. of seed per acre failed, we then sowed 25 lbs. of seed per acre, and that was carried away by the slug also. We then proceeded to sow 30 lbs. per acre as late as the second week of November; it came up very well, and the white slug could not work in consequence of the white frosts. But to show how hardy this plant is, although the seed was only just come up when the frosts began, yet it resisted the weather of winter and proved a valuable crop, although not quite so early as usual.

The soil best adapted for the growth of Trifolium is a sandy or rather strong loam. We have, however, grown it upon nearly all soils, including light gravelly land, and if the land is in good condition it will give a heavy produce; and as the ground is always mellow and kind for root crops after the Trifolium is removed, it must be considered the best preparatory crop for roots of all the crops grown for soiling, cattle, &c. For feeding sheep upon the land this crop is first-rate, but it should be folded-off when young, otherwise the stock tread it down and do not make clean work. When this is likely to be the case we prefer to cut the crop with the scythe and put it into the hay racks, or cages as they are called, for the sheep. What they leave can then be removed, and without delay to the ploughing and sowing of the ground with root crops. We have grown splendid cabbages after Trifolium, our plan being to lay out the manure and rake it into every third furrow at the time of ploughing, and plant the cabbage on the furrow immediately over the dung. To save time we have sometimes strewed guano or other hand manures into the furrow at the time of ploughing.

Unless Trifolium is saved for seed it should be used whilst the stalks and haulm are soft and succulent, as the ripening process begins early and rapidly. When once the stalk becomes hard and wiry it possesses but little nourishment for cattle-feeding. If it is required for hay it must be cut very early, and just as the blossom commences to make its appearance. Under any circumstances it makes but poor hay compared with the clovers, and this is rather odd, considering its extraordinary feeding value in the green state. It must be noted also that Trifolium for hay is injured much more by a shower of rain than the clovers. Trifolium is often a paying crop if saved for seed, particularly upon light gravelly soils, which give but a poor return in the growth of cereals, and we have known, even when the seed has not been worth over 4d. per lb., the crop has proved much more valuable than either wheat or barley upon the same kind of soil.

Notwithstanding this, such soils will produce good crops of common turnips if fairly tilled and manured after the Trifolium crop is taken for seed. We have likewise noticed that soils in our own occupation, upon which we had repeatedly failed to obtain a plant of broad clover, have, when the Trifolium has been fed with sheep followed by roots and barley, produced a regular plant and fine crop of broad clover; and it is in fact the only remedy we know of in cropping for land which is termed "clover sick." It sometimes occurs when Trifolium is sown in August under favourable circumstances that it becomes very luxuriant, and likely to become laid and twisted with the autumn rains. In such case we have seen it fed by forward ewes and lambs in the months of October and November, but not penned in a close fold, which would damage the crop. When sheep are only allowed to take off a little of the strongest plants it protects it from damage, and, although rather later, it will prove a good crop in the spring.

The feeding value of Trifolium is different when used for certain kinds of animals. For instance, when given to farm horses whilst in flower, it is so good and sustaining to them in their work upon the land that we have known them refuse their usual allowance of oats, and have frequently found a portion of their corn and chaff food in the mangers uneaten when they have had access to a full bait of the Trifolium. Fattening cattle eat it well at the racks, and we have found them lay on flesh faster when eating Trifolium than when consuming clover, Italian rye grass, or any other green fodder. We have not, however, found that it is best for milch cows, as in some instances the cows' milk would decrease as compared with the yield under clover or grass feeding. It is equally good for young heifers or steers when used as supplementary food whilst grazing on pastures, but more particularly we have found it beneficial when given to our young animals in the boxes whilst feeding for "baby beef." It is equally good for store pigs and breeding sows. We, therefore, conclude that the great value of the produce consists in its power of sustaining working horses or forwarding the condition of cattle intended for the shambles.

WORK ON THE HOME FARM.

Horse Labour is now principally required in carting the cereal produce to stack or barn, also the pulse crop, such as beans, peas, or vetches as they come ready for harvest. We will here remark that we have noticed some extraordinary crops of mixed pulse, such as beans and winter vetches, also beans and the small late maple peas grown in admixture. These are nearly sure to answer well grown as a double crop, because they hardly ever both blight in the same season. It is for that reason that they are grown in admixture, and are certainly a much safer crop than when grown separately. When the season happens to be favourable for both it is quite astonishing the quantity of pulse which is sometimes produced, for the beans not only produce in great abundance, but they support either peas or vetches, so that they flower and pod with great luxuriance.

At intervals, when the horses are not employed in harvest carting, they should be engaged in ploughing for stubble turnips, and when these are sown the horse-power upon the home farm should be directed to autumn cultivation, and as much of this as possible should be done before the laying out dung, &c., in preparation for the wheat crop commences. The chances are that after the preparation for the wheat sowing commences there will be no opportunity for further cultivation of the land intended for roots next year, except that the portion which had been surface-tilled before the autumn rains set in may then be deeply ploughed or ridged up for the reception of the various changes of weather during the winter months, all of which contribute to fertilise the land and reduce it to a state fitting it for the growth of root crops in perfection.

The odd horse will still be engaged in horse-hoeing the latest-sown Swedes and common turnips, and during the harvest period the work of carting green fodder for the horses and cattle will fill up the time of one horse and man. We find, too, that the borders which afforded gross crops of grass, hogweed, and cow parsley, &c., up to midsummer have been fit to cut the second time for several weeks past, and give at the present time a lot of good succulent green fodder, which is eaten readily by young cattle at the stalls and by dairy cows. This is especially relished by the breeding sows and store pigs feeding on for early quarter pork, the latter getting an allowance of Indian corn and barley meal. The green food gives the animals a good appetite for the meal, &c., and thus keeps them growing as well as fattening. Under this way of feeding the manure made is valuable, especially when the sties are bottomed with good loamy earth, and littered with straw as cleanliness requires. It is, however, found when the grass, &c., from field borders are given to pigs, the whole is not always consumed, the remainder going far towards economising straw required for litter.

Hand Labour.—The hand labour, for which the demand during harvest is always great, will now consist of tying the corn behind the reaping machine. Upon some small home farms, however, hand-reaping, mowing, and faggotting are still a necessity unless a reaping machine can be hired for the occasion. After heavy storms of wind and rain hands will often be required to set up

the sheaves which have been blown down, and in setting them up into shock again in exposed situations we prefer to set them up in round shocks, which are not so easily blown down. The thatchers, too, will now be busy, for they will be required to thatch not only the corn ricks but the ricks of second cutting of clover hay. It is desirable, even after the ricks of corn have taken rain, to thatch them immediately, for we have always found it better to thatch in the damp than expose the ricks to further risk: we find any damp under the thatch will always dry out.

When the men cannot tie the corn they should not be allowed to cut it but put to other work, such as drawing straw in readiness for the thatchers during the intervals when corn cannot be cut. The hoeing or second hoeing of Swedes or turnips may be done, as work of this kind will not wait, and cannot be put off indefinitely without serious damage to the root crops. At this time of the year the great fairs for the sale of sheep are held, and the requirements of the home farm must be attended to, and such breeds of sheep purchased as are adapted to the soil and climate and the nature of the food to be consumed. The corn stubbles and pastures will be generally full of good keeping for sheep during the coming autumn, and the sheep now being offered for sale in both the midland and southern counties, either of ewes or lambs, are in prime condition, and we have not seen them better or freer from lameness and disease than at present for many years. It is a good plan, therefore, now to purchase the ewes for breeding, because when they are in good condition they are more likely to offer to the ram earlier and with more regularity, and this matter will be found of great importance at the lambing time.

EARLY CHICKEN SHOWS.

We have always consistently advocated poultry showing merely as a means to an end—viz., the ultimate improvement of our breeds of poultry, which is only likely to be attained by the diffusion of a more thorough interest in and knowledge of the subject. As a mere objectless pastime, for which birds are sent about from show to show till they are ruined, we have always deprecated it; consequently we have never been among those who greatly patronise many early chicken shows, at which immature cockerels and pullets necessarily appear. These early shows, however, are by no means useless, and contribute considerably to the amusement of many fanciers, who could hardly be expected to give them time and attention to the far-off end of leaving a good strain of fowls behind them, without some diversions meanwhile from comparison of their stock with that of their neighbours and the merited rewards of successful production. We will, therefore, say a few words about the advantages of these shows and about the system of preparing birds for them. Early maturity is greatly to be desired in our young poultry both for table use and for the production of a good supply of late summer and autumn eggs. As a test, therefore, of who can rear the earliest spring chickens, so valuable both for home use and sale, and the most matronly pullets to provide eggs, the prize list of an early show is of considerable value.

The price of really good spring chickens in London and other towns has become quite exorbitant; it is no little credit, then, to a breeder to be able to supply his own table or the market with delicious chickens when most of the world are obliged either to go without them altogether or to eat meagre apologies for them in the shape of dwarfed autumn birds, or veritable old cocks and hens. Eggs, too, become yearly dearer. Even in the country we are now asked as a favour for our superfluous eggs at 1s. 6d. a dozen in the summer months to be sold again at a profit! Early pullets which will produce them in abundance from July into the late autumn are obviously very valuable. Chicken shows, then, at which none but really early birds have a chance of winning, must give a stimulus to the breeding of such stock. Some breeders, it may always be observed, are more successful at the early, others at the later shows. This may depend upon their system, or upon the situation and climate of their yards. We have of late ceased ourselves to attempt early exhibitions from living in a high position much exposed to spring winds, where the stock birds seldom lay in winter, and where the growth of early chickens is so much checked that they never come to large size. Others, again, who have great success in rearing chickens actually in the winter fall entirely to keep later birds growing through the autumn. Some few who are fortunate enough to have great space or variety of ground are equally successful at the early and late shows.

We have in previous numbers written about the management of early chickens in their infancy; if they have duly developed the best of them should by this time be fit for the show pen. As for the later shows, the great object is to keep them growing and chicken-like as long as possible; so of course for the early birds it is to bring them into full plumage with rosy combs. For this purpose the cockerels and pullets to be shown together are generally allowed to run together for some while before the exhibition. If they must be so shown this is better than putting them together for the first time in the show pen, from which a skirmish is sure to ensue. Where, however, they are shown separately we should in the case of the larger varieties, especially Dorkings, prefer

keeping them apart, and if the cockerels require some forcing give them a little Spratt's food in their ordinary meal. The plan to be pursued at the Hemel Hempstead Show strikes us as a good one—viz., for a cockerel and pullet to compete as a pair, but in separate pens. In the case of the smaller breeds—Silkies, Hamburgs, and Bantams—the sexes of those to be shown early should not be separated, and all may with advantage have some stimulating food. We may give a hint, too, that in the case of varieties where sickles are a necessity care should be taken that the destined prizewinner has so much as possible his own way. We have observed among our own Hamburgs and Bantams that a cockerel which is "cock of the walk" always develops his sickles rapidly; but if the cockerel be kept under by an old bird they are very slow in growing this appendage of maturity.

Summer shows are generally short affairs and held under tents without the unnatural and exciting adjuncts of crowds of evening visitors and blazing jets of gas, hence chickens may be sent to several shows without material injury. It must, however, be remembered that birds forced on for them seldom prove fine specimens in the end, and are usually quite out of condition for the later shows. We have known some remarkable exceptions to these rules, usually when the chickens have gone suddenly into a moult like that of old birds, developed much during it, and have then come out in handsome fresh plumage. As a rule they continue small (though, unfortunately, this does not follow in the case of Bantams), and are useful, as we have said, rather for present exigencies than for future reproduction of their kind.—C.

WINCHESTER POULTRY SHOW.

THE first poultry Show, and the first south of England chicken Show of the season, was held at Winchester on the 15th inst. and following days. We were informed that two months ago the Show was not thought of. A few gentlemen conceived the idea that a poultry show would be appreciated in the town invited Mr. T. C. Burnell to join the Committee, and with his advice and assistance an admirable collection was produced. Twenty classes of poultry obtained 213 entries, and twelve of Pigeons 130.

Dorkings.—First a substantial bird, but rather oval in the back and queer on the feet; second smaller, and crooked in the legs; third a good Silver. *Pullets*.—First a fine well-grown bird, a little sooty in feet. *Cochins*.—Cockerels, fifteen entries. First a fine Partridge, second a better Buff but not so forward, third a Partridge. Pen 39, unnoticed, a beautiful White entered as eighteen weeks—much too young for the company. We thought him the most promising in the class. *Pullets* a large class (thirty entries). First a nicely pencilled Partridge, rather deficient in leg feather; second a well-shaped sound Buff, same owner, we thought should have been first; third a large Buff, but tinged in hackle. *Brahmas*.—Cockerel.—First a good Light, second and third moderate Darks. Pen 81, another Light, we thought should have superseded the Darks. Pen 78, a Dark, was in colour and other respects the best in the class, but he showed unmistakable signs of a twisted hackle. *Pullets*.—First a Dark of sound ground colour but deficient in markings. We much preferred the second, a well-developed Light of excellent shape and beautiful markings. Pen 83 (Stevens) extra prize, we also liked better than the winner. *Game*.—Cockerel.—First a promising Black Red; second also a Black Red with nice style, but not so neat in head as the winner. *Pullets*.—A dashing-looking Pile first, second a small but capital-coloured Duckwing, a little loose in the tail. *Hamburgs*.—Only nine entries in the two classes; the winning pullet, a Golden, was well pencilled. *French*.—Capital classes. *Cockerels*.—First, a fine Crève, but we thought him a little up in the back; second a well-marked Houdan. *Pullets*.—The winner a splendid Crève, we thought her the pick of the Show; second a well-marked Houdan. *Bantams* were a moderate lot. *Any other variety*.—A rather forward Spanish cockerel was first, second Polish, third a good Andalusian. A pretty pullet shown by the same exhibitor was second in the following class.

Pigeons, considering the period of the year, were better than we anticipated. Carriers nine entries. The winner we did not like; he was larger in beak wattle than the others but uneven round the eye, thick in the neck, and coarse in style; second a Black; third a Dun, we thought birds of a much higher class. Pouters and Fantails followed. Good classes. *Dragoons*.—The first, a young bird, was rather down in beak, and for this reason we much preferred the second (same owner), a very old winner and still in good condition. *Any variety Dragoon*.—A capital class, a Chequer was first. *Jacobins*.—First and second Yellows, third a good coloured Red. *Owls*.—First and second (Barnes). The winner has been noticed by us on former occasions. *Any other variety*.—First a Barb, second a Magpie. An extra prize was given to an excellent white Barb that justly attracted the attention of the Judge. No prize list was forwarded to us.

VARIETIES.

AT a recent meeting of the Council of the Royal Agricultural Society of Ireland, Major Borrowes called attention to a new

turnip-crop pest—a species of small green worm or caterpillar, which, within the previous forty-eight hours, had covered a space of twelve acres of turnips on his estate in the County Kildare. Such a thing has not occurred there for twenty-five years. The worm speedily ravaged all the leaves except the centre one, and showed wonderful powers of getting over the ground.

—A LINCOLNSHIRE correspondent informs us that harvest operations have been seriously impeded in that county by heavy and protracted rains. Since August 2nd 5.68 inches of rain have fallen, and since cutting commenced 6.60 inches have been registered. Much wheat has grown green in the stooks, but the weather during the present week has been more favourable, and progress has been made in securing the crops.

—A REVOLUTION is likely to be wrought in the harvest field by the new combined reapers and binders. At the recent trial at Bristol, the gold medal was awarded to McCormick's machine, entered by Waite, Burnell, Huggins, & Co. The machine cut and tied half an acre of greenish oats in twenty-four minutes without a stoppage of any kind, and it finished 1 acre and 26 perches of wheat in fifty minutes, including two stoppages, once snapping the wire. The special merit of the work, says the *Mark Lane Express*, was in its perfect collection of all the corn, scarcely an ear being dropped; thus absolutely the whole of the crop is bound in the sheaves, leaving nothing at all to be raked up, and perhaps not more than a handful per acre for gleaners. About 2½ lbs. of No. 20 gauge annealed wire is used per acre at a cost of 1s. 3d. to 1s. 7d., and the saving in corn from the clean collection would seem far more than enough to pay for this, considering that the old bands are alleged to be saleable at about half price, and the labour of five or six men in manual tying is dispensed with.

—TURF IN ORCHARDS.—An opinion is very generally entertained that turf in orchards is not only not injurious to fruit trees, but is actually an advantage, as forming a covering which prevents the too rapid drying of the soil. Both of these views, says a Berlin paper, are erroneous. As regards the first, it has been actually proved that turfed ground gives out far more moisture than unturfed soil. Practical experiments have shown that during five months in the summer a morgen of turf land gives off, on the average, 800 cubic feet of water a day; unturfed ground, though dry on its surface, is not able to withdraw so much moisture from the subsoil; the evaporation which goes on through the leaves of the grass is far greater.

—A FLOATING BEE HIVE.—Our American cousins have hit upon another novelty, which we find thus referred to in a New York contemporary:—"A floating bee house has been constructed by Mr. Perrine, a Chicago honey dealer, large enough to accommodate two thousand hives, which he is having towed up the Mississippi river from Louisiana to Minnesota, keeping pace with the blossoming of the flowers, and thus stimulating the honey-making ability of his bees. Returning he will stop about two months somewhere about St. Louis, and will reach Louisiana in October. He wants to take advantage of the autumnal flowers at each point. The plan of moving the bees to get the benefit of flowers has been tried in a small way in some parts of Europe."—(*Colonies and India*.)

—MILK AND TYPHOID.—The medical officer of Bristol has traced the typhoid fever outbreak there to a dairy farm. The supply of milk to retailers has been stopped, and every precaution taken. No deaths have occurred, but the area of the outbreak is extending.

POSITION OF SUPERS.

WE all concur with the writer of the reply to "F. J." as to the importance of the correct placing of supers and the principles which regulate being well understood; but he is very much out of order in stating that "it is in harmony with the laws of Nature" the empty being placed next the stock hive and underneath the filling one, and that the contrary practice of those who employ Stewarton hives "has not given us good reasons, or perhaps any reasons at all, placing the empty super above the full ones." The principles which regulate the practice were fully explained in these columns years ago.

It is said that Nature abhors a vacuum, and so does the bee. In the early spring months the population is at the minimum, and the hive if properly constructed should then be small for the better concentration of the heat; with the rise of the temperature and increase of population it is enlarged by means of nadirs placed underneath, it being well known that the brood combs are extended in a downward direction. Now suppose we give a couple such nadirs at once, we do not find the workers descend to occupy the lowest, leaving the nearest empty; they proceed with too much regularity for that. In like manner with the commencement of the honeyflow: supers are set on above and the bees ascend to take possession of the nearest first, and gradually extend themselves upwards proportionately to the population of their storage wants. In short it is ever the anxious endeavour of bees

whether it be broodcomb downwards or honeycomb upwards, to extend them continuously; there are no broken links in the chain of their works, the fresh ones being always added to either end. Even the most unlettered skepist could not fail to note, on removing the cover of the objectionable central hole and setting on a glass, the great caution and care with which the bees extend the frontiers of their waxen kingdom by actually at much trouble building a comb upwards from its base till it can be attached to the top. When they have thus, as it were, hoisted their flag and taken possession comb-building goes on briskly downwards from the top in the usual manner.

When I read the reply to the query referred to I went out to my apiary and removed the super coverings from my best octagon colony, which in addition to the usual breeding space had six honey boxes upon it in different stages of progress. The lowest, or one next the stock hive, was, with the exception of a few cells, sealed out. The second from the stock was about filled with honey; sealing commenced. Third, fully combed and about half filled. Fourth, combed with but thinnish combs, not fully extended. Fifth and sixth, crammed with bees suspended in roped festoons from roof and wax guides. Such was the regular and beautiful gradation with which I found the work progress. The two lowest have since been completed and removed, empties taking their place on the top. Supposing a break of weather to take place, so arranged the bees would have to abandon; but the outposts, falling back on the most valuable part of the store wisely placed, as the supplies always should, nearer the centre. We have known of such a break follow; and a novice who had adopted the plan recommended to "F. J." chagrined to find the bees had carried the contents of the all-but-completed super placed on the top of empty down into the stock hive, evidently impressed with the idea so valuable a part of the commissariat ought not to be left without the lines.

Your excellent contributor Mr. Briscoe has already ably pointed out the risk of ruin from brood, to which the combing super next the stock hive is placed, from incursions of the queen; and his remarks apply with equal force to the ingenious adapter plan of Mr. Fox introduced to the notice of your readers many years ago. By that plan the bee is left no choice. Her most strenuous endeavours to connect her works are frustrated by a super being placed higher and yet higher, on the same principle as the owner of a dog may by raising a bit of meat tempt the animal to spring up and up. It would surely be absurd to say that either feat was "in harmony with the laws of Nature?" To the enlightened apiarian the day of monster supers, as of big straw skeps, is over; profitable bee-keeping consists in adopting the hive and system of bee management by which the greatest weight of comparatively small and completed, most marketable supers can be obtained.—A RENFREWSHIRE BEE-KEEPER.

HARVEST FROM FIRST-CROSS ITALIANS IN STEWARTON HIVES.

REFERRING to the harvest alluded to in last week's Journal my clerical friend informs me that he has now removed all his supers, the actual net weight harvested being 445 lbs. against 430 lbs., his previous estimate of the probable result, at the same time adding, "My harvest hive gave me 92½ lbs., and my next best 88 lbs. of super honey."

For the benefit of the uninitiated it is necessary to explain that the above is only a portion of what each colony severally and altogether gleaned, and irrespective of the mass of honey stored in the three body boxes constituting a stock, which, owing to the peculiarity of the season, I find in all cases this year to be unprecedentedly large.

The last bad barren season was succeeded by a spring so cold and backward that breeding was retarded, in too many instances entirely suspended. It was not till midsummer that we were favoured with really warm honey-secreting weather, which found stocks short of workers to take possession of the accustomed number of supers; and as the most rapid mode of securing the abounding nectar the honey gatherers poured it into the vacant brood cells and there sealed it over, as a sequence lessening the breeding of young bees in that department, and by so keeping the colonies short-handed still further restricted the production of super honey.—A RENFREWSHIRE BEE-KEEPER.

OUR LETTER BOX.

MONGREL CHICKENS (*An Eastern*).—We advise you not to adopt legal proceedings. As long since as 1854 a cause was tried in the Great Yarmouth County Court, and the conclusion was that no one could swear how many generations before the cross had occurred.

AN OLD HIVE NADIRED (*G. C.*).—After taking three supers well filled from your stock hive you drove the bees into an empty one, but on discovering that it was pretty full of brood you put it on the top of the warm hive, and the question with you is whether to let the bees in the top (old) hive or drive them into the nadir or new hive. The bees did well in the old one this year, and as its combs are but fifteen months old we advise you to let them remain. Let the bees have 8 or 10 lbs. of sugar as quickly as possible, then remove the bottom hive, and cover all up for another year.

WHEN SHOULD HIVES BE OBTAINED? (*R. F. R.*).—In country places autumn is the best time to buy bees, for then they are easily obtained. At the time of taking honey most bee-keepers would rather sell their hives for stocks than put them down for honey. But from professional apiarians hives may be bought at any season, and of course there would be less risk of loss in waiting till winter is over before you begin bee-keeping. Mr. Cheshire's hive is a good bar-frame one, but rather too costly for general use or for profit. The Stewarton hive is in many respects preferable to a common bar-frame one, as it possesses greater facilities and capabilities for work and progress. To either bar-frame or Stewarton hives Mr. Pettigrew prefers large straw hives, which are three-fourths less in price, more easily managed, and he finds them better every way.

BARLEYSUGAR AND CROWN BOARDS (*Beevar*).—We do not use barley-sugar in feeding bees, nor do we approve of using it. Doubtless it is made by boiling sugar and rolling it into sticks before it cools. The exact process we are not able to describe, but sugar and water given in liquid form is better and more natural food than sugar in any solid state. The crown boards of frame hives should touch or nearly touch the tops of the frames. When a space is left between them the bees are apt to fill it up with combs, and thus cement them together.

COW FOR A SMALL PLACE (*P. C.*).—There is no cow to suit a small establishment like the Kerry breed. They are small, hardy, and capital milkers, and they will browse on any rough pasture.

INSURING (*B.*).—Apply to the Royal Farmers' Insurance Company, 3, Norfolk Street, Strand, London.

METEOROLOGICAL OBSERVATIONS.

CAMPDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.		IN THE DAY.							
	Barom. Total 39 and Sea Level.	Hygrom- eter.	Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		In. sun.	On grass.
					Max.	Min.	In.	On grass.		
1878.		Dry.	Wet.							
August	Inches.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	In.	
We. 14	29.345	66.3	61.7	W.	62.5	74.7	58.0	124.0	58.6	0.010
Th. 15	29.681	66.1	61.3	W.	63.1	75.0	56.2	125.5	52.7	0.212
Fri. 16	29.418	63.8	59.0	S.	63.0	71.0	56.5	117.1	54.1	0.243
Sat. 17	29.865	60.5	54.1	S.	62.0	70.3	50.1	124.9	47.3	—
Sun. 18	30.066	65.9	61.1	N.W.	61.5	74.4	52.7	118.0	49.3	—
Mo. 19	29.871	64.7	61.3	E.N.E.	62.0	74.7	55.2	125.0	51.8	—
Tu. 20	29.851	62.9	57.0	N.E.	62.1	68.4	52.2	127.1	49.8	—
Means	29.735	64.3	59.4		62.3	72.6	54.4	120.3	51.9	0.471

REMARKS.

- 14th.—Fine day, but very windy, slight shower in morning; afternoon very bright, occasional clouds.
15th.—Bright morning; dull in early part of afternoon, but bright again afterwards; fair evening.
16th.—Heavy rain 10 A.M., then an interval of bright sunshine, and heavy rain again between 1 and 2 P.M.; thunder at 1.50; it brightened up again about 4 P.M., and the evening was fine.
17th.—Fine day on the whole, though cloudy and overcast at times.
18th.—Fine day throughout.
19th.—Slight haze in morning, a little cloudy in the afternoon, but on the whole a bright fine day; very slight shower in evening.
20th.—Very hazy and at times dull, but altogether a fair day; much cooler. The weather has been cooler during the week although there has been a good deal of bright sun, consequently all the thermometric values are below those of last week with the exception of the solar radiation temperature. The mean of the barometer readings is also rather lower than last week.—G. J. SYMONS.

COVENT GARDEN MARKET.—AUGUST 21.

TRADE has been quiet, and prices remain much the same, with the exception of Plums, which have experienced a considerable fall. Large quantities of Grapes from the Channel Islands are still arriving, reducing the value of all classes of homegrown fruit. Kent Cobs and Filberts are flat.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.			
Apples.....	1	sieve	2	0	4	Melons.....	each	4	0	10	0	
Apricots.....	dozen	1	0	3	0	Nectarines.....	dozen	4	0	12	0	
Cherries.....	1/2 lb.	0	0	0	0	Oranges.....	1/2 lb.	100	3	0	16	0
Chestnuts.....	bundle	0	0	0	0	Peaches.....	dozen	2	0	12	0	
Currants.....	1/2 sieve	0	0	0	0	Pears, kitchen.....	dozen	0	0	0	0	
Black.....	1/2 sieve	0	0	0	0	dessert.....	dozen	0	0	0	0	
Figs.....	dozen	2	0	4	0	Pine Apples.....	1/2 lb.	3	0	6	0	
Filberts.....	1/2 lb.	0	6	0	9	Plums.....	1/2 sieve	2	6	5	0	
Cobs.....	1/2 lb.	0	6	0	9	Raspberries.....	1/2 lb.	0	6	1	0	
Gooseberries.....	quart	0	0	0	0	Strawberries.....	1/2 lb.	0	0	0	0	
Grapes, hothouse.....	1/2 lb.	1	0	6	0	Walnuts.....	bundle	5	0	8	0	
Lemons.....	1/2 lb.	100	6	0	10	ditto.....	1/2 lb.	100	0	0	0	

VEGETABLES.

		s.	d.	s.	d.			s.	d.	s.	d.
Artichokes.....	dozen	2	0	4	0	Mushrooms....	pottle	0	1	6	0
Asparagus.....	bundle	0	0	0	0	Mustard & Cress	punnet	0	2	0	4
Beans, kidney forced	½ lb	0	3	0	6	Onions.....	bundle	2	6	3	0
Beet, Red.....	dozen	1	6	3	0	pickling.....	quart	0	4	0	6
Broccoli.....	bundle	0	9	1	6	Parsley..... doz.	bunches	2	0	0	0
Brussels Sprouts	½ sieve	0	0	0	0	Parsnips.....	dozen	0	0	0	6
Cabbage.....	dozen	1	0	2	0	Peas.....	quart	0	9	1	0
Carrots.....	bunch	0	4	0	8	Potatoes.....	bundle	3	6	7	0
Capsicums.....	1/2 lb	1	6	2	0	Kidney.....	bundle	5	0	7	0
Cauliflowers.....	dozen	3	0	6	0	Radishes..... doz.	bunches	1	0	1	6
Celery.....	bundle	1	6	2	0	Rhubarb.....	bundle	0	6	0	9
Coleworts..... doz.	bunches	2	0	4	0	Salsify.....	bundle	0	9	1	0
Cucumbers.....	each	4	1	0	1	Scorzoneria.....	bundle	1	0	0	0
Endive.....	dozen	1	0	2	0	Seakale.....	basket	0	0	0	0
Fennel.....	bunch	0	3	0	0	Shallot.....	1/2 lb	0	3	0	4
Garlic.....	1/2 lb.	0	6	0	0	Spinach.....	bundle	2	6	4	0
Herbs.....	bunch	0	2	0	0	Turnips.....	bunch	0	0	0	9
Leeks.....	bunch	0	2	0	4	Veg. Marrows..	each	0	2	0	4
Lettuce.....	dozen	1	0	2	0						

WEEKLY CALENDAR.

Day of Month	Day of Week	AUG. 29—SEPT. 4, 1878.	Average Temperature near London.		Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	h.	m.	h.	m.	h.	m.	h.	m.			
29	TH	Wantage Show.	71.6	48.0	5	9	6	52	6	48	7	0	1	m. s.	241
30	F		72.0	48.3	5	11	6	50	8	18	7	15	2	0	242
31	S	Wakefield Show.	71.1	47.2	5	12	6	48	9	48	7	33	3	0	243
1	SUN	11 SUNDAY AFTER TRINITY.	70.5	47.5	5	14	6	46	11	18	7	55	4	0	244
2	M		70.6	47.6	5	16	6	43	0	46	8	25	5	0	245
3	TU		70.3	47.0	5	17	6	41	2	6	9	5	6	0	246
4	W	Glasgow Show.	70.4	46.2	5	19	6	39	3	13	9	59	7	1	247

From observations taken near London during forty-three years, the average day temperature of the week is 70.9°; and its night temperature 49.5°.

HINTS ON LANDSCAPE GARDENING.—No. 7.

TREE PLANTING.

EMBELLISHMENT, privacy, and shelter are our guiding stars in planting trees and shrubs near or in sight of a house; all are important, but the first is most so from the fact that we are bound to aim at making the whole of the planting ornamental—in the present in some degree, and fully so in the future. Here is a difficulty confronting us at the outset; for how can we expect each tree to grow into beauty and to develop its full perfection of size and form if during the first two or three decades of its existence it form one of a crowd? Well, the truth is we do not expect perfection of form in every tree, but we do want size and vigour, and therefore the planter's work must be followed by much subsequent care in thinning and effecting a gradual clearance of the space intervening between the permanent occupants, so that the spreading branches may constantly be exposed to the full play of light and air. Let this be clearly understood, for trees are often not only planted too thickly, but are still more frequently neglected year after year till they are ruined. Due attention must also be given to the situation, soil, and climate, all of which are important matters, exercising much influence upon the growth and health of trees. In a poor shallow soil we must plant shallow-rooting trees, such as the Beech, Silver Fir, Birch, and Holly. In a deep, rich, or heavy soil, on the contrary, we take the Oak, Elm, Plane, Tulip Tree, Lime (which also answers tolerably well in a thin soil), Horse Chestnut, Ash, Spanish Chestnut, Poplar, and most other trees of lofty and rapid growth. I may here usefully note that Spanish Chestnut also answers admirably in a thin silicious soil, proving superior to everything else as underwood for producing hop poles and fence rails. This tree, like many others, will make a free growth in a variety of soils, growing with almost uniform rapidity for the first twenty years of its existence, and then gradually becoming comparatively stunted and slow in growth very much in proportion to the thin or sterile condition of the soil. An appreciable annual growth is made, however, and in due course they become trees, not large and stately specimens, but yet sufficiently large to form imposing clumps and masses.

A clear understanding of the adaptability of timber trees for different soils and situations is of much importance. An Oak assumes magnificent proportions and becomes a veritable monarch of the forest in a deep rich loam; in point of fact it is only in such soils that it attains its full development, yet in thin soil and on elevated positions it will grow 50 feet high, and affords some shelter in a mass. Much more valuable, however, for both purposes are the Larch and Scotch Fir. I have seen the Larch growing in the deep alluvial soil of a fertile valley considerably upwards of 100 feet in height, and have also measured trees growing upon a slope some 600 feet above the level of the sea, in soil of only medium fertility, that were upwards of 60 feet high. In the deep loams of Kent the Beech grows

to an immense size, and it is also the finest of all deciduous trees, growing in the poor thin soil overlying beds of iron-stone, gravel, and sandstone, upon the forest ridge in mid-Sussex. *Pinus insignis*, *P. austriaca*, *Cedrus atlantica*, *C. Deodara*, *Abies canadensis*, *A. Albertiana*, *A. Douglasii*, *Pinus excelsa*, *Picea Nordmanniana*, *P. Pinsapo*, *Sycamore*, *Acacia*, wild Cherry, the Tulip Tree, Horse Chestnut, Lime, Silver Fir, Scotch Fir, and Larch also answer well in this thin soil, the Silver Fir (*Picea pectinata*), being especially remarkable for its free robust growth. It attains an altitude of upwards of 100 feet, towering aloft above all other trees upon the crest of a slope fully exposed to violent gales of wind from the south-west, forming a bold clump of great beauty, singularly elegant and distinct in appearance. Seen from a distance the tapering symmetrical forms have a sprightly air that is very attractive and which blends well with the Larch, to which it imparts relief in summer and a no less agreeable warmth of tone in winter.

From the limited use of the Silver Fir amongst forest trees it would appear that its full value is not much known; when it is it will probably supersede the Scotch Fir for purposes of shelter, or be mingled with it and help to break up the long monotonous belts and heavy funebrious masses of it which are now so common. Apart from the question of mere appearance its value for timber is superior to the Scotch Fir; it grows to a much larger size in both deep and shallow soils, answers as well in a heavy clay as in a light sand, and has only one weak point, which is that when planted low down in a valley the leading shoots of young trees sometimes suffer from late spring frost, just like that other valuable Conifer, *Pinus insignis*.

In planting for shelter avoid straight lines. The numerous belts of Larch and Scotch Fir planted in all parts of the country some sixty years ago are just so many blots upon the landscape which it is impossible to ignore. Heavy, stiff, and formal in themselves, they rob the most tasteful enclosure of its beauty and are offensive to the eye from every point of view; and yet I like the trees, for individually they possess much beauty, and few trees may be used with more telling effect even for shelter. Instead of planting half a dozen rows along the top of a hill in the old formal style of a belt, throw them all together in a bold central mass upon the top, and let it spread in picturesque irregularity a little way down the face of the slope. Proceed onwards and downwards with deciduous trees, masses of Beech, Oak, Sycamore, Lime, Horse Chestnut, Spanish Chestnut, Hornbeam, Birch, Pseud-Acacia, selecting such of these as appear suitable for the soil, and blending with them the rich lively green *Pinus insignis* singly and in clumps, also Silver Firs, and the light silvery-hued *Pinus excelsa*, and for autumnal effects Tulip Trees, wild Cherry, Scarlet Maple, and Scarlet Oak. An occasional Purple Beech also tells well from spring till autumn. Enrich the lower portion and foot of the slope with the common Ash and its handsome Walnut-leaved variety *Fraxinus juglandifolia*, the Fern-leaved Beech, the Mountain Ash, a few Birch mingled with *Pavias*, Willows, Robinias, Hawthorns, Holly, and *Mespilus*, also introducing a few clustered Scotch Firs here and near the sides.

At any point along the foot of a slope of a valley which it is desirable to close for shelter or to exclude some unpleasant object, turn any suitable portion where the soil is good to account by planting Oriental Planes and the Black Poplar (*Populus nigra*), both fast-growing trees, which must be planted singly or in bold clumps, which when well placed are very telling; but I do not like to see this Poplar among other trees, for it soon assumes such gigantic proportions as to dwarf every other tree near it. No tree is more profitable for timber in a tolerably deep soil, and for certain purposes it commands a good price.

Bold hillsides planted entirely with Larch, Spruce, and Scotch Fir are a common sight, but such a style of planting could only be admissible when profit was the sole consideration. Deciduous trees in variety must always find favour in the eyes of an artist or person of cultivated taste; and in planting for effect we give due weight to the freshness of new spring foliage, the beauty of bursting bud and opening flower, the glorious autumnal tints, the play of light and shadow among the various forms of foliage, as well as the warmth and beauty of evergreen Conifers in winter, when the bare branches of deciduous growth would if seen alone present a forlorn aspect quite the reverse of ornamental.—EDWARD LUCKHURST.

FAILURES IN ROSE GROWING AND SHOWING.

SOME years since a writer in the Journal complained that so many people wrote of their successes, but none of their failures. I endeavoured at the time to supply the omission, and detailed my failure in fruit cultivation. I can now speak with feeling of another failure which pricks me to the very quick—a failure in growing my own particular flower, the idol of my life, and the subject of my labour and thought for ten years.

There is an old Latin proverb which when translated says, "Let not the cobbler go beyond his last." If he does I presume he only meets with failure; but I have stuck to my last, and the harder I have kept to it and the longer I have practised my trade the worse craftsman have I become. This year my Roses have done so very badly that neither with Teas or Hybrid Perpetuals have I secured one first prize. I only showed at the Crystal Palace, Hereford, and South Kensington; but seconds and thirds were the utmost I got, and except at a little local show I have never seen a first-prize card on my stand.

What is the reason of my want of success? In the first place the competition now at first-class shows is enormous. It is true it was always great, and that I have secured first prize for forty-eight varieties at the Crystal Palace in former years; but still I think it is greater than it used to be. If Mr. Baker is in his usual form he is almost invincible. He has proved this on many occasions, and this year he is again *facile princeps* the king of the amateurs. But now we have a giant from the heavy soil of Hereford who has only shown for a few years. If Mr. Baker is Gog, Mr. Jowitt is Magog.

It is almost a certainty that these two are first and second at any show; then comes Canon Hole, who once was monarch of all he surveyed. He must be third at least on all occasions, and after these great leaders of the fight come the Rev. E. N. Pochin, John Hollingworth, and several more. All have good soils, all have right trains, and all have burning enthusiasm in the cultivation of the queen of flowers. I certainly possess the last qualification, but I am destitute of everything else.

As to soil, I do think my soil is the poorest, most heart-breaking stuff ever seen. A bantam cock when airing himself among my Manettis amuses himself with pulling them up with his spurs. We scarcely dare put a hoe among the Roses for fear of pulling them up. The ground cracks in dry weather, and do what we will with moving the soil we cannot keep it from cracking. The manure we put on runs away through the flints and does hardly any good, and we are overrun with rabbits. "I think," said one of my farmers, "I shall have to leave this parish. I want some land that will hold some dressing; besides, my teeth are getting worn out, so I must go." "Teeth! What has the land to do with your teeth?" I ask. "Why, sir, I shall starve to death, for I shall not be able to pick the bones of the rabbits."

Think what it must be to have to keep a man tread, tread, treading all day long to induce the Rose roots to lay hold of the soil; think what my soil must be when I have to place both feet on the roots when I cut a bloom for fear the knife should not cut the bloom but pull up the whole plant. This has often occurred with me.

Then as to trains. There is no train on our miserable line (the sleepy London and South-Western) which leaves Exeter later than five o'clock. Think of that for a great trunk line running from London to Plymouth, and not to have a later train than one leaving Plymouth at two and Exeter at five. Consequently I have to cut my blooms fifteen hours before Mr. Baker, who travels by the Great Western mail; and Canon Hole can cut even later.

So to sum up, I have no soil to grow Roses in worthy of the name; I cannot get any growth, so that my blooms have neither substance nor strength to bear a long journey; and to crown all I have to cut them thirty hours before they see the judge.

"But when you used to be first how did you manage it?" someone may ask. "Had you not the same difficulties to contend with? Why, if you once did it, cannot you do it again?"

This is a very fair question, and one perhaps difficult to answer. The only satisfactory reason I can give is this: When first I came here I saw it would be hopeless to grow Roses in the soil, so I removed it and brought good soil from a distance, but the expense was enormous. For one winter a farmer had three what are called "putts," or two-horse carts, at work all day hauling soil. Whilst the virtue of the new soil lasted I could get blooms, but now it has become stale and I cannot afford to replace it, so I am obliged to go on in the poor worn-out soil and do the best I can.

"Give it up," says one. "Why wear a collar that wrings?" says another. "Try some other flower that will take kindly to your soil, and leave the Roses to others." I cannot do it. I must grow Roses whether good or bad. They are the most glorious flowers of all, and the objects of my greatest admiration. If any brother rosarian who reads this feels any sympathy with me, and can advise me or help me in any way, I hope he will do so. The only thing I can think of is to get some clay and mix it with my light soil, but this will be a difficult matter to manage. The longer I live the more am I convinced of the futility of growing Roses in the same soil for a period of more than two or three years. Mr. Baker does it, it is true, but he gives a portion of his soil a thorough rest for a year every now and then; and he is blessed with a very rich red soil, which puts you in a good humour even to look at it. If one only could do it we ought to break up a piece of pasture every year for our Roses, and grow other crops on the former pieces; but where are we to get the pastures? No landlord will allow his pastures to be broken up. It makes one laugh in derision at the advice given by writers on floriculture, who say when speaking of a compost for any flower, "Take the top spit of an old pasture, if where Cowslips have grown so much the better." But where in the world are we to get the top spit of an old pasture? It is like telling a starving beggar to sit down at the feast of aldermen and then he will enjoy himself. Even the sides of the roads are now claimed by the roadmenders. You cannot get fresh soil except at a ruinous cost.

Such are a few of the difficulties which have made my Rose showing a failure this year, and which have turned me into a —WYLD SAVAGE.

GRAPES SCALDING.

WITHOUT going into the whole of the principles involved in the consideration of this question, it may prove interesting to those who are troubled by their Grapes scalding to note my own experience with Lady Downe's here.

The vineries are old, "with the old-fashioned system of heavy rafters, close sashbars, and small squares." The system of ventilating pursued is of the freest—a current of air at all times during the growing season playing through the houses. Early in the morning during warm summer weather the ventilators are opened to their full extent, and the whole of the doors are open. Ventilation is not reduced till the sun has left off playing on the houses. With regard to the amount of atmospheric moisture supplied, I am inclined to believe that no Grapes are grown with less. The Grape Vines are not syringed at any season, nor is there any moisture applied to any surfaces as borders, paths, or walls inside the vineries at any time, save when the borders are being watered or what may be spilt in watering plants early in the season. In order further to secure against scalding this season the pipes have been heated in dull weather. Under the above treatment Grapes which used to shank badly are all but cured of that disease. Golden Champion finishes to perfection, and withal in one division I cannot grow Lady Downe's without scalding.

Last season several bunches were entirely destroyed, this season the affection has not been nearly so bad, still it has been to such a degree as to make the bunches thinner than they ought to be. In the division next to the above Lady Downe's is very little affected. Why should such things be?—R. P. BROTHERSTON, *Tynninghame*.

OSMASTON MANOR CUCUMBER.

AFTER reading Mr. Harding's able article on Cucumbers in a recent impression of the Journal I have thought to say a few words in favour of Osmaston Manor. I have grown it now two seasons, and am so satisfied with it that I am inclined to reduce Telegraph and promote Osmaston Manor to the top of the list, which in my case is not a long one. I do not grow many varieties, but hearing from a high authority that Osmaston Manor was really good I was induced to try it. My list forthwith will be Osmaston Manor and Masters' Prolific: by growing these two varieties I find I am able to supply a rather heavy demand of good everyday-use fruit, with a few extra fine ones for exhibition purposes to boot. I need not go into details as to the many good qualities of Osmaston Manor; suffice to say that I am of opinion that it is the only real rival that Telegraph has to contend against.—W. W. B.

HYACINTH GLASSES.

WE have before referred approvingly to the new Hyacinth glasses of Messrs. Stevens & Williams, and subsequent ex-



Fig. 22.—Hyacinth Glasses.

perience with them enables us now to confirm all that we said in their favour. We have not only found the glasses admirably adapted for Hyacinth culture in the spring, but they are also elegant receptacles for cut flowers during the summer, or, indeed, at any season, as the accompanying illustrations sufficiently attest. Now that the Hyacinth-growing season is approaching the following sound instructions for growing the bulb in water, extracted from Messrs. Sutton & Sons' catalogue, will be seasonable:—

"It is of little consequence whether rain, river, or spring

water be employed, but it should be clean and of a kind not likely to become offensive. Fill the glasses sufficiently full that the bulbs will nearly but not quite touch the water, and place them at once in a dark cool place, that they may be encouraged to send their roots down into the water before they begin to expand their leaves. When the roots are growing freely bring them from the dark to the light, in order that their leaves and flowers may be developed in a healthy manner without being attenuated. Provide supports in good time; let the plants have as much light as possible, with an equable temperature. They are often injured by being kept in rooms that are at times extremely cold and at others heated to excess. Those who grow Hyacinths to perfection in glasses must remove them occasionally as circumstances may require, to prevent the injury that must result from subjecting them to rapid and extreme alternations of temperature. It is not desirable to introduce to the water any stimulating substances, but the glasses must be kept nearly full of water by occasion-



Fig. 23.

ally replenishing it as it disappears. If the leaves become dusty they may be cleansed with a soft brush or a sponge dipped in water, but particular care must be taken not to injure them in the process."

FRUIT REPORTS.

A GOOD deal was written early in the year upon fruit prospects, now the time has come for fruit reports. Some of the prospects have been fulfilled, others have not. Some people's realisations have been beyond their anticipations, others have been just the reverse. "Call no man happy till the day of his death," said the ancients. Let no pomologist rejoice or weep until the time of the fruit-gathering has come.

I have recently returned from a run through parts of Warwickshire, Worcestershire, and Gloucestershire, and in a fruit-growing sense I wish other counties resembled these. A large portion of the pasture land in these counties is planted with Apple and Pear trees, not always so thickly as to form orchards, though there are many, but with a certain number of trees at intervals, such wide intervals that injury to the lands there could be none, while an additional return of profit is certain. "Be aye sticking in of a tree, Jock, for while you are sleeping it will be growing." This simple sentence of Sir Walter Scott's is said to have led a great many Scotch lairds to plant woods, of which the benefits in appearance of the country and to the purses of the present owners of the soil are great. Why not, O English landowners, plant a few Apple trees in most fields, as they do in the counties I have named? Surely cider is as good as beer. But not only is the pasture land thus Apple-tree-sprinkled, but I noticed that often there was one row at least of Apple trees down the middle of a corn field, and very beautiful at this season of the year looked the well-grown fruit trees standing up amidst the upright ears of Wheat—two harvests on one land and at the same time. I must think this an admirable plan: as the Apple trees are in the middle of the field they are protected from the depredations of boys, for no boys would dare to tread over a field of corn;

then as soon as the corn is harvested there are the Apples ready to be gathered.

As to the actual fruit crop of this present season, my eye showed me that everywhere Plums were most abundant. There hanging in conspicuous numbers—and mark you, Plums unless very numerous are not conspicuous; but at railway stations, in orchards, in trim gardens, and many not very trim, the trees were bending under the weight of the fruit. Then the shop windows, particularly the fruit shops of Worcester, were filled with piles of Plums, far more Plums than all other fruits put together. Then I noticed this peculiarity as to Apples and Pears—while there were many trees with very little fruit on them, a large number with none at all on them, there were some few trees very heavily laden, and not of one variety either. I think this points to the fact that it was some case of particular shelter which such trees chanced to have, and that the shortness of crop was not owing to any such cause as non-ripening of the wood. The varying of cropping irrespective of variety is, I notice, the case hereabouts. In one garden a Marie Louise Pear is almost breaking down, in another there is not one Pear on the tree. My own private experience is, I see, quite the opposite to that of some who have written in our Journal. I had, for instance, a full crop of Summer Doyenné, and these quite early in July. This variety when gathered at different periods, say a dozen at a time, and ripened in the house, is, I think, by far the best early Pear, and its flavour as treated above, not being allowed to ripen on the tree, is excellent, and a dish of these very pretty Pears is most welcome to all. Then followed with me a good crop of Beurré Giffard, handsome in shape and colour but with a flavour somewhat peculiar, some people liking it very much, others positively disliking it; not so juicy either as the little Summer Doyenné, but in some respects greatly its superior. Jargonelles are a failure with me for the first time in many years, crop small, fruit small. Madame Treyve is coming on well, good in shape and a good crop, and there ends the list of my successes as to Pears. I have no Pears on many trees, for instance Seckle, Beurré Hardy, Beurré d'Amanlis, Winter Nelis, Napoléon, Williams' Bon Chrétien, Louise Bonne of Jersey, and Joséphine de Malines. I have a few on Soldat d'Esperen, Beurré Diel, and a fair sprinkling on Bergamot d'Esperen. This exceedingly partial crop as to Pears seems to extend to every garden and without respect to special varieties.

I now come to Apples. As a rule, the crop is very uncertain, one tree being loaded heavily, while another of the very same variety in the next garden has nothing whatever on it. Hawthornden has not failed me, but it does not show its wonted bright, smooth, unscarred face, but is all around me small and spotted. Having a particular eye to early eating Apples as being much needed, and very welcome at dessert and also in the schoolroom, and among young folks generally, I have been tasting and marking these kind of Apples very particularly. First and foremost in beauty, aroma, and flavour among the very early I must place Irish Peach. I am told that it is almost the only early Apple grown in Ireland, and verily brother Pat shows much wisdom. It is a few days after Margaret, and a fortnight behind Joanetting; but how superior it is to each of these! Joanetting is the first of summer Apples as to time, just as Summer Doyenné is among Pears, and this is a great point, for the first fruit, first ripe fruit, is from its earliness greatly to be treasured, as it is so much appreciated, but Irish Peach is vastly superior in all respects to Margaret. Then just at this time (August 23rd), we are eating Summer Golden Pippin, which I place next to Irish Peach. Verily our Doctor in his "Fruit Manual" is quite correct when he says, "This is one of the most delicious of summer Apples, and ought to form one of every collection however small. Flesh yellowish, firm, very juicy, with a rich, vinous, and sugary flavour." I would also add that the aroma is most pleasing to the nose, something after the way of Irish Peach. Duchess of Oldenburg is doing well with me, its handsome shape and beautiful striped sides and pearly bloom are most pleasing. On theory, I should place it, as Rivers places it, among the kitchen Apples, and not K. and D. as Richard Smith does; still D. only as it is placed in the "Fruit Manual." By the way, I have since writing the above line turned to Dr. Hogg's "Fruit Manual," and that although in the body of the book, the descriptive part, the Doctor speaks of the Duchess of Oldenburg thus, "An exceedingly early dessert Apple of the first quality," yet in the lists of select Apples, page 164, this Apple is placed among the kitchen sorts. I think this, perhaps our Doctor's second thought, is the best.

I have splendid crops on my pyramids of Cellini, Ecklinville Seedling, and Winter Hawthornden, and what gems of Apples these are! The shape and size of these attract the attention of even an Apple-ignorant person. Perhaps Cellini in shape and marking bears the bell, but Ecklinville has a colour of its own and very pleasing, and it is a weighty Apple as well as a large one.

And now for a sad trouble I have, and which has caused me to cook before their time all my Ecklinvilles and many of my Cellinis. A small bird, whether tomtit, or whitethroat, or linnet, for all three and more are blamed, contrives to pick a hole about half an inch from the stalk on the upper side as the fine fruit hangs. This hole is about the size of half a marble; then follows a thunderstorm, and this is a thunderstorm season, and the Apple rots. I have lost thus all my Ecklinvilles, many of my Cellinis. The birds have begun to attack Winter Hawthornden, Cox's Orange Pippin, and have spoiled several Duchess of Oldenburgs. Whatever Apple fairly ripe hangs conveniently is sought out and ruined. Unlike blackbirds and thrushes they are not easily scared, but creep under pieces of muslin hung over the trees. If the rain does not come the way is opened for the wasps, which are thus enabled to go on and devour. The little birds are so quickly gone that I have never found one actually eating. This from being a highly game-preserved county has no hawks, and I have many woods and shrubberies around, so that I am bird-pestered. As a proof how numerous birds are here, a friend of mine killed forty-two blackbirds and thrushes in his garden in two days. I fear, bird-lover though I be, I must get out my gun next year.

To proceed with Apples. I have heavy but somewhat blighted crops of Lewis's Incomparable; fair numbers of Devonshire Seedling, New Hawthornden, Cox's Orange Pippin; but not a Sturmer, an Alfriston, a Joanetting, a Striped Beeding, a Keswick Codlin, or a Tower of Glamis.

Gooseberries have been a poor crop. Raspberries and Strawberries excellent. Currants fair only; while Damson trees are blue with fruit.

I have paid some special attention to Raspberries, and can speak well of the plan of growing on wires as being handy to gather and easier of protection from birds. The delicate flavour of the yellow varieties, to say nothing of their beauty, should cause them to be more generally grown, and certainly yellow Antwerps fruit as freely as any red. Carter's Prolific is a noble berry, so Fastolf, and so also Fillbasket. But some sent me by a lady in Somersetshire with a dark stem, somewhat late in ripening, exceed any I have. Their name I know not, nor can I identify them by the "Fruit Manual."

Thus for the present end my words about fruit.—WILTSHIRE RECTOR.

P.S.—From a very good source I have heard this year of the great excellence of the Pitmaston Green Gage Gooseberry, but personally I am not acquainted with it.

DEVON AND EXETER HORTICULTURAL SOCIETY.

THIS old Society has attained its jubilee year, and after fifty years it has been found to have suffered a little from the vicissitudes of fortune. Wet weather on show days, an inadequate subscription list, a liberal prize list, and hospitable treatment of judges have all told their tale, and the funds are at their lowest. Under these circumstances the Society has been reorganised, and it is hoped that it will live for another fifty years.

The courteous Hon. Secretary, Mr. T. W. Gray, who has for forty years conducted the business of the Society, has retired, and his place taken by Mr. C. B. Sanders. The Society has presented Mr. Gray with a very handsome testimonial, and also given him a complimentary dinner.

This year there have been two Shows, one in June and the latter last Friday. The usual Rose Show has not been held on account of the state of the finances; however, on the 23rd inst. an exceedingly pretty Exhibition was held on Northernhay, and I do not think I ever attended a show where there was so much variety. Gladioli were exhibited by Mr. Kelway in fine form, Mr. Dobree of Wellington brought his matchless Dahlias, and Dr. Woodman filled one side of a huge tent with his splendid plants. Then in a large tent the Veitch memorial prize, offered for twelve kinds of vegetables, was competed for by a very large number of exhibitors, whose productions also filled one side of the tent. The prize was awarded to Mr. Drew of Powderham. In a smaller tent the centre table was occupied by the table decorations and the fruit, and I do not know whether I have ever seen a better show of the latter.

The table decorations were not so numerous as usual, and being confined to ladies the gardeners of the great county people could

not compete; still, what there was attracted much attention and was very good in quality. Miss Wish was the winner of the first prize. She showed three trumpet-shaped vases, filled for the most part with exotic Ferns, and if any fault could be found with her handiwork it would be that flowers were too sparingly used. The second and third prizes were awarded to vases which would perhaps attract the general public more from the beauty and variety of the flowers employed, but I can imagine no quieter, subdued, and cool decoration to put one in a good temper and to assist digestion at dinner than Miss Wish's.

The cut flowers were very good indeed. A prize of £5 for twenty-four bunches of not less than twelve varieties was offered by a gentleman in the neighbourhood, and this attracted great competition. Dr. Woodman showed in the best (according to my judgment) form, and such as I should suppose the giver of the prize desired to see. In a large box he put twenty-four bunches of three flowers of the same variety; and whether we regard the class of flower shown, the variety, or the excellence of the individual blooms, or the way in which they were set up, the eye of the florist could not help wandering in admiration of his stand. Perhaps a list of some of the varieties shown will not be unwelcome to some of your readers who may wish to have a guide for future competition. I know that such descriptions are a little tame, so I will let them off as cheap as possible. There were two Orchids—*Oncidium* and another, two *Ericas*, one *Dipladenia*, two *Allamandas*, two *Bougainvilleas*, two *Vincas*, *Rondeletia*, *Habrothamnus elegans*, *Ixoras*, *Clerodendron*, and that lovely hardy herbaceous plant *Agapanthus umbellatus*, which did no discredit to the grandees on each side of it, but stood her own well. This stand did not, however, get the prize, but one by Mr. Grant. I should not, however, call the winner's exhibit a stand, for it was a collection of table decorations, each set of flowers being shown in a separate glass vase. The judgment evoked much criticism, and I do not know quite on what principle the Judges went. Each glass vase contained, not three blooms of the same variety, but a miscellaneous collection of all sorts, in fact what may be called an *omnium gatherum*.

The Dahlias exhibited by Mr. Dobree were exceedingly good. In fact I do not remember seeing any finer ever exhibited. I regret to say, however, that Mr. Dobree does not intend to continue exhibiting these flowers. He no doubt finds, like I have done with Roses, that his ground wants a complete change. Some few years ago he exhibited Roses in as good form as he now does Dahlias, but no doubt for the same reason he relinquished growing them and took to Dahlia cultivation. I took notes of all his leading blooms. Besides the number required for exhibition he staged sixty varieties, and a finer lot could not have been put together. His best bloom was Christopher Ridley; this is one of Turner's, and is a dull crimson in colour, but of the most perfect form. Next to it was Julia Grieve. This in colour reminded me exactly of Homere, the well-known Tea Rose, but its form was far different, being as perfect as the other is imperfect. Julia Wyatt and John William Lord were both fine Dahlias. Of the yellows Canary was the best, but John Neville Keynes, whose name tells its origin, and Acme of Perfection were so like it that it was difficult to distinguish any difference. Mrs. Harris is a charming Dahlia; she is light lavender shaded with white, and has a more perfect form than we can believe "my friend Mrs. Harris" could have had. Sensation was worthy of the name as to colour: imagine a rich salmon with red edge, and each petal shaded with white. Baron Taunton is a Dahlia which must grow wild. It refuses to be cut and doctored, and so should be cultivated in every garden. In colour it is a somewhat deep lavender. Henry Bond, light purple in colour, and Willie Eckford, almost cupped in form and a dull ruby in colour, are both striking Dahlias.

Mr. Nation, who I believe lives at Taunton, was a good second in this class. Owing to the prize cards having no names upon them till late in the afternoon it is difficult to find out the names and addresses of the exhibitors, so that I hope any mistakes on this head will be forgiven me. His best blooms were Tiffany, salmon peach in colour, and good in form; John Bennett, scarlet shaded with yellow; Herbert Turner, the purest white, and one of the most striking Dahlias shown; Marchioness of Lorne, a most striking Dahlia, the ground colour canary, but each petal lined with peach; and Lady Gladys Herbert.

Mr. Kelway showed some splendid Gladioli, one of which he dedicated to Mrs. Dobree. I will not weary your subscribers or take up your space by giving the names of the various spikes, as it is a very difficult matter to make such lists interesting, and I doubt not most of your readers have often seen the same blooms; but I must give you the names of a few of the splendid plants which Dr. Woodman staged. There was no prize offered for stove and greenhouse plants, so he did all for love and good fellowship. Well did the old firm come to the front. He showed a splendid specimen of *Allamanda nobilis* and *Stephanotis floribunda*, and his *Ixoras* were also very fine, but his Tree Ferns and exotic Ferns bore away the palm. He had three grand specimens of *Gleichenia rupestris*, *Mendeli*, and *dichotoma*. His *Dicksonias* and *Adiantum concinnum latum* attracted the notice of everyone, while his Pitcher-plants, and *Crotons*, and *Marantas* were too numerous to

specify. The trilobed *Croton* named after the Premier before he left the Commons was good, but the variety named *volutum* was more striking. Every leaf was curled and formed into a complete bow, and the effect was very curious. Perhaps there might have been more flowers and fewer foliaged plants, for when the sun was hidden by thunder clouds the effect was a little gloomy, but the exhibit was a very grand one. In another tent Mr. Robert Veitch staged a large collection of foliage plants, but here hardly any flowering plants were to be seen.

Most of the Exeter nurserymen staged a large number of Roses not for competition, but the blooms were more conspicuous for quantity than quality. There was a fair competition for Roses; but, the giants staying away, pigmies like myself were left to represent the queen of flowers, and the quality may be imagined. *Philoxes*, *Asters*, *Geraniums*, and other autumn flowers were all largely shown, but were not so good as I have seen them in former years.

The day was not all that could be wished, as a heavy thunder-storm broke over the city as the Judges made their rounds; but afterwards the sun came out, only the sky looked threatening enough to keep many visitors away, and I fear the old Society's jubilee year will have proved a disastrous one to its finances.—WYLD SAVAGE.

ROSE CULTURE ON THE ISLAND.

WE Portsmouth people consider the Isle of Wight as much "the Island" as does London a visit paid to it as "going to town," and I propose now to record a short visit lately paid to one of the chief Rose-growers on the Island.

Crossing the "silver streak," which was rather disposed to make itself unpleasant, as it has often been doing this turbulent August, I landed on Ryde's long pier; and presently, by a most leisurely little single-line railway, was carried to a place which I shall not further indicate except That Parish. Parish and church seemed very perfect indeed of their kind, and admirably suited the one to the other. Eighteen years ago a bare hillside, the vicarage and vicarage garden is one of the most charming spots imaginable; nor is the closely neighbouring God's acre a whit less engaging or tenderly cared for. As I mounted the sunny hillside through preparatory cottages I saw tokens on every side that people as well as pastor loved well their Roses. Glorious old "John" and Lamarque were robustions in vigour. Some walls, however, were less honourably occupied. I could not but feel, while looking at them, very like that sated epicure regarding a countryman pegging away in an eating house. "My dear fellow, how can you waste that glorious appetite of yours upon a commonplace leg of mutton?" How can they waste such situations upon such intense rubbish? for is it not as easy to grow a good Rose as a bad, and is not our Island the garden of England? Such Myrtles as I saw, worthy rivals of those which fringe the outskirts of Lebanon, and Verbenas 10 feet high, and Fuchsias 20 feet well up under the windows! while rare specimens of the Cupressus, and trees of which I cannot write without displaying my ignorance—*C. Lambertiana*, and *Laurenceana*, and so forth—enriched the house and garden with a pleasing shelter, the only one thing there which Nature had left to be desired.

My hospitable host led me forth after luncheon, and we lionised in various parts—first and last, and especially, of course, the Rose regions. Some of these in the case of *Maréchal Niel* and *Lamarque* were very close under the roof. Céline Forestier appeared as an energetic climber. *Triomphe de Rennes* was in rude health; *Climbing Devonensis* gigantic. In short there was every appearance that *Teas* and *Noisettes* may be grown here with special advantage and to very great perfection. To my surprise the Hybrid Perpetuals, whether on Briar or Manetti, were not equally flourishing. This garden, however, like others elsewhere, had received a check in the spring from which many Roses had never rallied. I was also surprised to be told by my host, whose trophies withindoors testified to his success as an exhibitor, that some Roses even in this favoured spot could not be persuaded to grow at all. *La France* for example, though it flourishes elsewhere; *Marie Baumann*, universally found unsatisfactory, a loss indeed for the islanders; *Alfred Colomb*, *Charles Lefebvre*, *Duke of Wellington*, *Louis Van Houtte*, and most of the *Verdier* strain he did not succeed with. It is a curious inquiry whether any of these specially object to sea air. I can testify to their having had every other advantage. On the other hand *Serenye*, *Pierre Notting*, *Thomas Mills*, *Marie Rady*, *Marguerite de St. Amand*, and especially *Capitaine Christy*, were spoken of in terms of considerable satisfaction.

Returning to Ryde somewhat later I was glad to find the "silver streak" rather more reasonable, and regained my quarters on the other side after a very pleasant day. May my hospitable entertainer when he reads forgive this, I trust not too intelligible, intrusion into his Rose privacy.—A. C.

GLAMORGANSHIRE HORTICULTURAL SOCIETY.

THE sixteenth annual Show of this Society was held at Cardiff on the 21st inst. When this Society was formed its pretensions were small, but under the able and courteous secretaryship of Mr. Payne, with the help of an excellent Committee, it has gradually expanded until it is now one of the best provincial shows in the kingdom.

The Show now under notice was much superior to last year's Exhibition both in extent and quality, and the arrangements were also much more perfect. The exhibits were so numerous that it took six large tents to contain them. The largest tent, some 200 feet in length, had the interior arranged in a most effective manner. The centre consisted of a beautiful fountain with a large basin surrounded with virgin cork; next to this there was a band about 2 feet in width of Maidenhair Fern, and then a margin of choice cut flowers set in a cushion of green moss. This was justly much admired, and so were the small moveable beds, which were elegantly filled with flowering plants in pots plunged in cocoa-nut fibre and lying a short distance from the centre figure. We were so highly pleased with these moveable beds that we remarked to several gardeners how useful a number of them would be about private gardens to shift about and arrange as desirable on such occasions as garden parties, &c. On each side of the fountain large groups of plants, Tree Ferns, Palms, and other choice plants of this description were placed in the centre of the groups, and the whole was banded with zonal Pelargoniums, Fuchsias, Balsams, &c. The effect of this combination was extremely imposing; and although Mr. Payne is not a practical gardener, his ideas of distributing plants in an artistic manner to insure the very best effect were strongly exemplified here.

The other tents were similarly attractive, only on a smaller scale. There was a broad stage raised for plants in the centre of one of the tents, however, which was not at all in harmony with the others. The plan was good enough, but the materials with which it was carried out were bad, and as the Society is in such a flourishing condition it would be a simple matter, and one sure to be appreciated, if stages and mounds on which to arrange the plants were made permanently with earth and turf as they are for the shows in Regent's Park and at South Kensington.

In the open plant class for twelve stove and greenhouse plants Mr. J. Cypher, Cheltenham, came in first (£15); second Mr. Williams, Worcester (£10); third Mr. W. Pilgrim, Cheltenham (£5). All the plants in these collections were of the usual class shown by those well-known exhibitors, and all the principal prizes in the open class for smaller numbers of plants were pretty evenly divided between Mr. Pilgrim and Mr. Cypher. In hardy Ferns Mr. Fowler, Pontypool, was first; and Sir George Walker, Castleton, second. In the amateur plant class Mr. Pilgrim was again prominent and won many of the first prizes. Lord Tredegar, the Marquis of Bute, Mr. Jones, Maindee Park, Newport, and several others, also showed in a very creditable manner in this class.

In the section for gentlemen not having regular gardeners there were some excellent Fuchsias, Geraniums, Achimenes, Balsams, and cut Gladioli, Asters, &c., exhibited; Mr. R. W. Williams, Newport Road, Mr. J. Watson, Mr. E. Fowler, Mr. J. T. Francis, and Mr. J. Elliot being awarded the principal prizes. In the open section for cut flowers Roses were the most attractive feature. Here Mr. W. Earl, Newport, secured the leading prize; Mr. Stephen Treseder, Ely Road Nurseries, Cardiff, second; and Mr. Davidson, Hereford, third. Some excellent blooms were shown by each of these gentlemen.

In the special prize section for Roses, the three prizes offered by Mr. Treseder for eighteen blooms, the first prize was well won by Mr. Pettigrew, gardener to the Marquis of Bute; the second by Mr. Thomas; and the third by Mr. Crosslin, gardener to Lady Clive. Tea Roses were also shown well by these exhibitors, but space will not allow us to go into detail on their merits, we must simply say of all cut flowers that they were shown in high style.

The table decorations were a splendid feature of the Show; Mr. Ellis, nurseryman, Cardiff, being first, and Mr. Slocombe, Canton, Cardiff, second.

The fruit was not wholly of the very first description, but this could hardly be expected, as the prizes in this section and for vegetables are much too small to bring out a really first-class competition; and as every person knows there is nothing gives tone to a show more than fine fruit, we would suggest to the Society that great benefit would be sure to result if the prizes here were augmented. For nine sorts of fruit Lord Tredegar was first, Lieut.-Col. Page second, and Mr. J. Barnes, Hucclecote, Gloucester, third. For the Queen Pine Apple Mr. Pettigrew was first, and Mr. J. Muir, gardener to C. R. M. Talbot, Esq., M.P., Margam Park, second, with nicely swelled fruit. Muscat Grapes were not

shown well, but in the class for any other white Grape Mr. Pettigrew was placed first with some splendid bunches of Foster's Seedling; and Mr. Crosslin second with large fine-coloured bunches of Buckland Sweetwater. For Black Hamburgs, three bunches, the position of these two prizetakers was reversed. For the collection of Grapes Mr. Pettigrew had first for a really fine lot, consisting of two bunches each of Muscat of Alexandria, Madresfield Court, Foster's Seedling, Buckland Sweetwater, Black Alicante, Gros Colman, and Black Hamburg. Peaches, Nectarines, Plums, &c., were small in size as a rule, but were shown in abundance. Melons were also plentifully shown, and so were all sorts of vegetables, the competition for everything here being exceedingly keen.

Altogether this was a surprisingly good Show, and this was the opinion of several gentlemen who were down from London judging, who told us they had seen nothing to equal it in the provinces, and commented highly on Mr. Payne's successful abilities in connection with it, and in all this we heartily concur.

There is only one thing we would be pleased to see better conducted, or stopped altogether at future shows, and that is the way in which one exhibitor shifts about another one's produce, and one taking advantage of the other's absence to change positions. This, of course, is very injurious to fruit in bruising and rubbing. When once an exhibitor has placed his productions on the table they should be entirely out of his hands. This we are confident would be just, and would give satisfaction to all parties.

We must not omit to state that Messrs. Cranston & Co., King's Acre Nurseries, Hereford, sent a splendid collection of Roses for exhibition; and Mr. J. Muir, Margam, was awarded a special prize for a fine collection of Oranges and fruit of this tribe, which were garnished with their leaves and blossom, and were greatly admired.—A WELSH READER.

WINTER TREATMENT OF STRAWBERRIES IN POTS.

THE potting of Strawberry plants for next season is now pretty well at an end. They are placed upon a level bed of coal ashes in narrow strips with intervening spaces for convenience in watering, weeding, and picking off runners, to all of which diligent attention will be given. Meanwhile we must not forget to give a thought to what we are to do with them in the coming winter.

At one time it was the rule to pile the pots upon their sides one upon another; but I never liked the plan, for the plants always suffered from drought in some degree, and I was very glad when a lot of Melon frames could be spared to afford the plants shelter right end upwards. Now, thought I, we shall be right; the glass lights can be drawn off, always excepting during heavy showers of rain or snow or during frosty weather, when they can be shut, and we can always give water if requisite, or throw on litter if frost falls very severe. But I was disappointed, for sometimes the glass lights were left on when they should have been off, or off when they should have been on; and worse still—indefinitely worse—many of the plants suffered so much from careless watering that many of the roots perished outright, inducing much subsequent feebleness and an indifferent crop of fruit, or rather no fruit at all upon many plants. A reform was needed, and a little cogitation soon brought conviction that all this coddling was wrong. I reasoned thus: The Strawberry is not exactly an aquatic, but then it never suffers from rain in winter unless the soil becomes waterlogged; it is, moreover, perfectly hardy. Why, then, protect it or keep rain from it? On the approach of winter, therefore, a bed of coal ashes was spread upon a level space sufficiently elevated to be safe from any accumulation of water. Upon this the plants were placed close together, the spaces between the pots packed full with some half-decayed leaves, and they were settled for winter, requiring only a glance after heavy rainfall to see if any pot was waterlogged, and in severe frost a slight covering of dry fern. The plan proved a complete success, for when the plants came in due course to be taken into the glass houses the full plump crowns, stout green foliage, and abundant white roots gave ample promise of the fine crop of fruit which was subsequently brought to maturity.—FRAGARIA.

CORDICEPS ROBERTSHI—THE RATA TREE.

I HAVE read with interest the Journal of the 14th February last, containing an account of the New Zealand vegetable caterpillar, and I may add that this curious creative anomaly is invariably found at the foot of the Rata Tree—not a plant, but a great forest tree. The fungus in first planting itself on the caterpillar does not kill it at once, but the animal can wriggle till its vital powers become exhausted.

I am not a scientific botanist, so am unaware whether or not observers have remarked the strange analogy between the Rata and the fungus of the vegetable caterpillar.

The Rata is an epiphytal plant at the commencement of its life. The seed is blown about, and a single one may fall on a great Matai, Totai, or other forest tree. The seedling germinates, grows, clings to, and at length envelopes the trunk. In the course of a century or two the Rata will be seen to have struck its roots into the ground, to have encased its "mother," whose choked and withered head will be seen mingling with the giant "child's" branches. At length the original forest tree—it may be 100 up to 200 feet in height—will have rotted away, and now appears the Rata, a gigantic and stately usurper, at the same time probably one of the handsomest objects in the forest. This is more particularly the case in North Island.

Thus the Rata is a vegetable killer, and at its foot is the fungus which is the animal killer, as your article has correctly stated—J. T. THOMSON.

PEAS IN 1878.

THE Pea season of 1878 is very nearly over. Although a few may come in after August most of the main sorts have been



Fig. 24.—*Erica metalflorea bicolor* (see page 170).

gathered, and now that the matter is fresh before me I would like to say a few words on our Pea crop generally this year. I may state that we never had better Peas. They have been the admiration of all who entered the kitchen garden. Sangster's No. 1 and Little Gem were sown on the 2nd of February. The first is a good old Pea just for one early sowing, but it stands no chance with others afterwards. I am beginning to think that none of the very dwarf sorts are worth growing. Certainly they do not take up much space, but the pods they yield are few. Nor do the dwarfs continue bearing for any length of time, while the kinds which grow about 6 feet begin bearing about a foot from the ground, and it is a long time before they finish-off at the points. We gathered fresh Green Peas from some of our tall sorts more than a month this season; for that reason we prefer all varieties growing from 5 to 7 feet in height. But it is very seldom Peas come exactly to the figures placed against them in catalogues. In rich soil many of them grow 2 feet higher than they are said to do, while in poor soil they do not attain their normal height. But the worst thing that any person can do is to grow Peas in poor soil, as there the produce is light, the quality inferior, and

the length of time of bearing very short. When the soil is not rich in which Peas are to be sown, a trench 18 inches deep and 2 feet wide should be taken out and the opening filled up with a mixture of half loam and half cow dung. Many rows of ours were prepared in this way this season, and it is the best plan we ever saw tried.

We sowed the seed much thinner this year than we ever did previously, and this also answered very much better than the old way of laying the seed close in together. Many of the kinds we paid 3s. 6d. a pint for. The seeds of these were planted singly about 3 inches apart to make them give a succession of sowings, and the crop from these has been more abundant and the pods much finer than those sown closely. I may state, however, they were not planted in single rows 3 inches apart, but in three rows the width of the spade in this form: . . . : From one pint of Culverwell's Telegraph planted in this way the produce was so great that we gathered from four to five bushels of pods, and now we have saved about six quarts of seed. Carter's Challenger treated in the same way was just about as fine. We have grown this year over two dozen of the best sorts known, and placed Culverwell's Telegraph first on the list. The pods are produced in great abundance, they fill rapidly, and become very large in size, and the peas are superb in flavour. Every person who saw it in the kitchen garden here, and who grows Peas, took its name down to have it next year. This is referring to its qualities as an early and mid-season Pea. Next season when I shall have plenty of seed I will try what it will come to very late. Carter's Challenger is an excellent new Pea. It does not grow so high, nor are the pods so large as Telegraph, but they are even more numerous, and they fill as well, and the peas are equally good in flavour. Carter's Little Gem has not proved equal to our expectations. The pods did not fill evenly and they were very scarce. It bears a resemblance in some respects to Dr. Maclean and this has not secured a place with us for another year. G. F. Wilson is another not quite good enough for us. Veitch's New Criterion is decidedly worth trying. It has come quite up to the representations of it as a midseason Pea, and it promises well for late. The flavour is very fine and the pods fill well. Laxton's Fillbasket Pea resembles Carter's Challenger very much, but it is inferior to it in every respect. Laxton's Superlative has filled well and produced pods of unusual size, but this is the best of it, as the flavour is very inferior. Dickson's First and Best and Dickson's Favourite have done well this season as they always do. Hundredfold is another we never think of avoiding. Veitch's Perfection and Champion of England do not stand quite so high in my estimation as in some people's. Ne Plus Ultra is a valuable late sort. Wilson's Vanguard is a moderately good Pea, and it comes in earlier by two weeks than Sutton's Duke of Edinburgh and Sutton's Duchess of Edinburgh—two promising Peas, but from the few we grew of them this year we cannot give a definite opinion of their merits for general purposes. Some of the others we have grown do not call for special mention here.

All the varieties were grown together and treated in the same way. Those which grow above 6 feet are benefited by having their points nipped out at that height. Those so treated podded to the very top, and a few we left to see what height they would attain ascended about 10 feet and doubled over at the top of the stakes downwards. Of course the greater part of the crop was lost; besides, the pods did not fill either well or so quickly as where the haulm was stopped.

As a rule Peas are ready for gathering sixteen weeks after sowing; and although I have the length of time marked down which it took all our different kinds to come in, it would serve no useful purpose to publish the notes, as it is well known Peas vary in their time of coming-in in different places and according to circumstances.—A KITCHEN GARDENER.

A FRUITFUL ORCHARD HOUSE—WOODSTOCK KIDNEY POTATO.

I HAVE rarely if ever seen so good an example of an orchard house as one I saw the other day at Sutherlands, the residence of Mr. Martin J. Sutton, at Whitley near Reading. It is nearly 300 feet in length, a lean-to, about 6 or 8 feet wide. There is a double row of trees, one on the wall and the other on a low trellis in front, with a narrow walk between, and on the top bar of the trellis Tea Roses are trained: thus every bit of space is utilised. There was a splendid crop of Peaches, Nectarines, and Plums, all evenly set, well coloured, and ripening well. I have seen a good many orchard houses, but never one

that seemed so thoroughly to fulfil the idea of what a good and profitable one should be as this. The whole place, which has been considerably altered and improved, evinces the care and taste which might be expected from a member of this well-known firm.

At the same visit I took notice of what I believe is likely to be a valuable new Potato, one of Mr. Fenn's raising—Woodstock Kidney. I saw several roots of it lifted on the trial grounds, and have had a few in my own garden. The tuber is smooth and handsome, very free from eyes, and, unlike many that are only good to look at, it is a splendid cooking Potato, mealy and white. The number of new, or so-called new, Potatoes is legion, but the number of really good ones very select. Woodstock Kidney is, I imagine, likely to be a favourite with all who value a really good tuber. I say nothing as to immunity from disease, for I do not believe in it. Planting early and lifting early are the only means of warding it off.

—D., Deal.

INTERNATIONAL HORTICULTURAL EXHIBITION SOCIETY OF SEINE-ET-OISE, VERSAILLES.

AUGUST 25TH TO 28TH.

It has been said that were Paris blotted from the face of the earth, leaving nothing behind it but the palace and gardens of Versailles, that this fairy-like structure—with all its promenades, fountains, and artificial lakes—would alone repay the visitor for his journey from England.

Versailles abounds in historical associations, and some of very recent date. It was here that Her Most Gracious Majesty Queen Victoria was received, with all the honour and brilliancy due to her, by the late Emperor Napoleon III., 1855. It was the head quarters of the German army during the late sanguinary war, and in this palace King William of Prussia was proclaimed Emperor of Germany in the midst of his generals, and surrounded by his victorious army, in January, 1871.

The Exhibition was held in an enclosure at the foot of the magnificent terrace leading from the palace front. The collections of choice exotic and other flowering plants were arranged in an immense almost circular tent, covering fully the space of an acre. The interior was tastefully laid out with gracefully sweeping spacious walks, which passed by circular, oval, oblong, and other shaped raised mounds, on which the plants were disposed, the whole presenting a very imposing appearance. Around the two massive columns which supported the vast canvas structure were some large Palms from M. Chantin of Montrouge, Paris. Very near this central oblong bed were four circular beds, one of which contained the magnificent and unique collection of plants from the Chelsea nurseries of Messrs. Veitch & Sons. These plants were not in competition. The effect from the entrance to the large tent was charming in the extreme. The corresponding circular bed to this was arranged with collections of Orchids and decorative plants sent by Mr. Wills, Onslow Crescent, Brompton. Mr. Wills was a very large and most successful exhibitor at this Show, and his collections added greatly to the extent and beauty of the Exhibition. Mr. Wills not only received the grand prize of honour, a Sèvres vase, valued at 800 francs, but obtained fifteen first prizes and one second from the sixteen classes in which he competed. This speaks well for English enterprise and English horticulture, and especially when we consider the difficulties of reaching Versailles—the plants shut up in closely packed baskets and vans, undergoing the journey of nearly a week by road, rail, and water. From a collection of over two hundred plants sent by Messrs. Veitch and Sons not a leaf nor a bloom was injured, and on Saturday morning the collection looked as fresh as when exhibited at South Kensington. The task for Mr. Wills was even greater, from the greater quantity of plants staged by him. The collections were the admiration of the multitudes of fashionable visitors which crowded the tents directly after the Show was open to the public at 3 P.M. on Saturday, and from early morning on Sunday until its close.

In addition to the prizes obtained in the classes M. Mozer, Versailles, received the prize of honour, a gold medal valued at 500 francs; M. M. L. Duval, Versailles, was awarded a prize of 300 francs, and M. Perrette, Bellevue, 200 francs. M. C. Lemoine, Angers, received the prize of Madame Heine, valued at 150 francs, and Messrs. Chantrier freres and Boivan fils 100 francs. Several other medals were awarded to foreign exhibitors. Although the Messrs. Veitch did not compete in any of the classes, the Jury marked the high estimation of the Chelsea collection by presenting them with a work of art.

The centre plant of their group was a large specimen of *Anthurium Brownii*, surrounded with four magnificent *Nepenthes*—*Hookeri*, *Rafflesiana*, *intermedia*, and *Chelsoni*. Grouped on one side of these were *Nepenthes Courtii*, *hybrida maculata*, *ampullacea vittata major*, *Sedeni*, *zeylanica rubra*, *Stewartii*, *Kennedyana ampullacea*. A fine plant of the beautiful and rare *Araucaria Neipreschkis* was very conspicuous and much admired. *Alocasia*

Thibautiana was prominent by its beauty, while that superb *Anthurium Veitchii*, with bronzy foliage quite 3 feet 6 in length, formed an exquisite background for Mr. Dominy's greatest triumph of hybridisation *Cattleya Veitchiana*, to which *Cattleya gigas Normani* with three very large blooms formed a fine companion; and in charming contrast was *Phalænopsis grandiflora* with snowy white flowers overshadowing a beautifully coloured example of *Croton Prince of Wales*. Long spikes of *Odontoglossums Alexandræ* and triumphans fell carelessly into the bosom of a grand plant of *Lomaria discolor bipinnatifida*. A group of *Cypripediums*, amongst which were *Sedeni*, *seligerum*, *ænanthum*, *calanthum*, *euryandrum*, and *Ashburniana*, were backed up with *Croton Truffautianus* and *Dracæna speciosa*; *Masdevallia Veitchii*, *Odontoglossum Laurenceanum*, *Epidendrum vitellinum majus*, and *Cattleya Dominana* being arranged in front of them. *Erythrina marmorata* and *Anthurium hybridum* stand out bold and effective. A fine plant of *Anthurium Warocqueanum*, with foliage 3 feet in length, was in splendid condition, and arranged alongside of it were *Cattleya hybrida picta* and *Oncidium prætextum*. The lovely *Dendrobium formosum*, with fourteen snowy white flowers, was on the front side of the group, also a plant of *Lapageria alba* was conspicuous by its purity. *Sarracenia Stevensi*, *Drummondii*, *Chelsoni*, and *purpurea*, intermixed with *Darlingtonias*, *Cephalotes*, and *Droseras*, were gracefully arranged in a bay on the opposite side of the pitchers, amongst which was exhibited for the first time a seedling *Sarracenia formosa*. It is the result of a cross between *S. psittacina* and *S. variolaris*, and has the erect habit of its parent *variolaris* with the colour of *psittacina*. It is quite intermediate between the two and a valuable novelty. *Dracæna Robinsoniana* and *Yucca filamentosa aurea elegantissima* were also very much admired. A miniature collection of *Bertolonias*, *Sonerilas*, and *Goodyeras* were grouped together on the one side, while on the opposite side an extremely rare collection of insectivorous plants commanded general admiration. *Adiantum farleyense*, *Liudemannianum*, and other Ferns were tastefully interspersed in the foreground, while very fine spikes of *Oncidium stelligerum*, *incurvum*, and *Odontoglossum hastilabium* were weeping over the top of the group.

For the best plant in flower Mr. Wills was awarded the first prize for a specimen of the new and distinct *Dendrobium superbiens*, having three good spikes and twenty-five expanded flowers. In the corresponding class for the best fine-foliage plant the same exhibitor won first honours with a massive plant of *Dracæna Goldieana*, without doubt the finest plant in Europe; its colouring and markings were indeed grand. In the class for a collection of new and rare plants exhibited for the first time in France Messrs. Wills, Duval, and Desbois competed. Mr. Wills was awarded first honours also for a collection of thirty-six plants, which comprised *Dracænas Goldieana*, *Willsii*, and *Fredericki*, *Ficus Grelli*, *Anthurium Warocqueanum*, *Calyptronoma Swartzii*, *Sarracenia Moorei*, *Bromelia Binotii*; *Crotons Prince of Wales*, *Mutabilis*, and *Earl of Derby*; *Ceterach aureum*, *Nephrolepis Duffii*, *Davidsonia pungens*, *Curmeria Wallisii*, *Æchmea Veitchii*, *Nepenthes superba* and *Hookeriana*, *Bertolonia superbissima*, *Acalyphas musaica* and *Macafeana*, *Sarracenia Moorei*, *Alocasia Johnstonii*, *Asplenium ferulaceum*, *Anthurium Veitchii*, *Goodyera Rollinsonii*, *Anæctochilus ornatus*, *Grevillea filicifolia*, *Bowenia spectabilis serrulata*, and *Coleuses Exquisita*, *Lord Falmouth*, *Kentish Fire*, and *Fascination*. In the class for three ornamental plants not in commerce twelve collections were staged, Mr. Wills again securing first honours for large and well-coloured specimen *Dracænas Leopoldii*, *majesticum*, and *albo-marginata*; he was also placed first in the class for a single plant in or out of flower, remarkable for its good culture, with a large plant of *Sarracenia flava maxima* with over sixty developed tubes. M. David was placed second, and M. Lacroix third. In the class for an unlimited collection of foliage plants remarkable for their good culture there were four competitors; Mr. Wills again secured chief honours. In the collection we noticed a very fine *Nepenthes* with over thirty pitchers; *Sarracenia purpurea*, remarkable for its deep brown colour; a pair of large *Yucca filamentosa variegata*, *Caladiums Princess Royal* and *Prince of Wales*, *Crotons majesticum* and *Earl of Derby*, several *Bertolonias* and *Sonerilas*, *Anthurium Williamsii*, and several of the new *Dracænas*, richly coloured.

Ferns were not numerous exhibited, and with the exception of Mr. Wills's first-prize collection of ten varieties the plants were small. The Brompton plants were large and well-grown specimens of *Davallia Mooreana*, *Adiantum gracillimum*, *Lomaria gibba*, a *Gymnogramma*, *Cyathea Dregei*, *Microlepia hirta cristata*, *Gleichenia Mendeli*, a *Pteris*, and one or two others. In the classes for five Palms and a collection of Orchidaceous plants Mr. Wills was the only exhibitor, and was worthily awarded the first prize in both cases. His Palms were grand and well-finished specimens of *Cocos Weddelliana*, *Phoenix reclinata*, *Plectocoma assamica*, *Phoenix rupicola*, and a very beautiful plant of *Pritchardia grandis*. His Orchids were arranged in the centre of the circular mound, corresponding to Messrs. Veitch, and comprised about sixty plants, amongst which we noticed good examples of *Oncidium flexuosum*, *Odontoglossum Alexandræ*, *Saccolabium Blumei majus*, *Vandas*, *Epidendrums*, *Maxillarias*, *Aërides*, *Masdevallias*, *Cattleya Eldo-*

rado, &c. Arranged around these was a collection of decorative plants, consisting of Aralias, small Palms, Reedias, Gloxinias, Ferns, and such-like furnishing plants, the whole being edged with a *Pyrola*, broken at intervals with Begonias.

In the class for the best collection of *Dracenas* M. Lemoine received the first prize, and Mr. Wills the second, MM. Pigny père et fils being placed third. M. Lemoine here excelled Mr. Wills in both size and numbers, there being no limit named in the schedule, but many of them lacked the colour of Mr. Wills's specimens. The best plants in the first-prize collection were Gladstonei, very well coloured; Baptistii, Andersonii, Youngii, Mooreana, and several of the newer varieties. Mr. Wills exhibited *picturata*, Fredericki, terminalis alba, Tellingi, recurva, Elizabethae, regalis, Berkleyi, ignea, Renardae, amabilis, aurantia, Willisii, salmonæa, Bausei, stricta alba, Mrs. Causton, Mrs. Bause, Mrs. Wills, Thompsoni, venusta, Cantrelli, and Goldiana.

Perhaps one of the finest collections of six specimen *Crotons* ever exhibited in France was that staged by Mr. Wills on this occasion. The plants were from 4 to 6 feet high, and were grandly furnished to the bottom of the pots and beautifully coloured. They consisted of Jamesii, Prince of Wales, Queen Victoria, Volutus, Andreanus, and Majesticus. For the best collection of *Crotons*, numbers unlimited, MM. Chantrier freres wrested the laurels from Mr. Wills, both exhibiting well.

From the well-known establishment of M. Linden, Ghent, Belgium, came an admirable collection of large fine-foliaged plants, including *Aralias* elegantissima and Veitchii, *Kentia* Lindeni, *Artocarpus grandis*, *Dracæna* "Basanore," *Cocos Bonnetii*, *Anthurium crystallinum*, *Dieffenbachia imperialis*, and *Pritchardias* macrocarpa and aurea. Adjoining the large marquee were several tents of smaller dimensions, MM. Truffaut fils, Versailles, entirely filling one with elegant foliage plants. An oval group of *Dracenas* near the entrance was admirably arranged; the varieties grouped together were amabilis in the centre, followed by stricta and terminalis, with an outer ring of Guilfoylei. In this bank there must have been several hundred plants. The sides and background of this tent were decorated with *Palms*; falling to the front there were grouped numerous varieties of *Dracenas*, all splendidly coloured and well finished. This tent was altogether effectively arranged, and fully displayed the wealth of M. Truffaut's establishment. M. L. Duval, Versailles, was a great exhibitor. His collection of *Gloxinias* was one of the most striking features in the Exhibition. There were about 160 large plants arranged together on an oval mound with the pots slightly plunged in the soil; a few small *Adiantums* were dispersed amongst them, and near the edge was a ring of *Selaginella formosa*, with an outer ring of cut blooms of *Gloxinias* placed in small bottles. They were for the most part new varieties representing every colour and marking imaginable. We noticed the following as particularly worthy of further cultivation—Mont Blanc, Boule de Feu, La Charme, Delicatum, Madame Cardozo, L'Éclair, Harry Veitch, Sarah Bernard, Madame Duval, M. Truffaut, and Richard Wallace. On the opposite side to these was a similar bank of *Achimenes* from the same exhibitor, and several meritorious collections of ornamental and other plants.

From M. Poirier, Versailles, came exceedingly well bloomed collections of both double and single-flowering *Pelargoniums*, pyramid *Heliotropes*, collections of *Petunias* and *Verbenas*. The banks of double *Geraniums* arranged by this exhibitor were composed of well-grown plants of dwarf dense habit with excellent foliage, each plant having from six to a dozen good trusses of flowers. Deputé Berlet, Guillaume Mangilli, Lucie Lemoine, Deputé Viox, Madame Thiers, a salmon *Emilie Lemoine*, Asa Gray, and Litre were amongst the most noteworthy. Near this collection were two banks of *Tuberous Begonias*, one on either side, with a smaller central mound of well-flowered *Gloxinias*. The whole of the plants were plunged in the soil to the depth of the pots, an arrangement that has much to commend it. Some beautifully coloured *Amaranthuses*, *Coleuses*, *Petunias*, *Caladiums*, and *Asters* were arranged in bays and curves around the sides of the large tent. One very striking feature in the centre of this arrangement was a collection of well-bloomed *Neriums* (*Oleander*) *Madoni grandiflorus*, *Augustine*, *coccinea Mabirki*, *Hacvile*, *alba maxima*, *roseum*, *aurantium*, *Single White*, and *Madame Peigre*. This old-fashioned plant, which was once a great favourite in England, is well grown in France, and may be seen in quantities in the markets, where it makes a most effective display.

Roses were very poor, and the style of exhibiting them was most unattractive. The blooms were arranged in long tubes affixed in a kind of framework with about ten bars across, and when filled with cut blooms forms a dense sloping mass; when empty it resembles a hurdle. Paul Neyron was conspicuous for its size, but all the rest were very disappointing to English growers. The best blooms came from M. Margottin, Bourg-la-Reine. Some of the collections were arranged in bottles—a very primitive method. *Gladioli* were very fine and numerous exhibited, but the spikes were exhibited in bottles of water. *Zinnias* and *Dahlias* were excellent; the flowers were very round, even, and massive. The same remarks apply to *Asters*, which were much finer than are generally seen in England.

FRUIT.—Both Apples and Pears were extensively shown, and nearly every variety was legibly named. The fruit was large and well coloured. Grapes were very inferior to those we are accustomed to see at home exhibitions. The varieties were those grown principally for making wines. Figs were very large and fine, especially a collection of *Rouge de Figue* and *Grosse Violette*.

VEGETABLES.—These were very poor excepting Tomatoes, which were of prodigious size. The Beans looked like semi-dried specimens, and would not be tolerated in England, but it is the French custom to eat them partly ripe. Potatoes were numerous, staged, but lacked the smooth clean appearance of English-grown tubers.

A special feature of the Exhibition was an extensive assortment of specimen *Coniferae* lifted and plunged in groups out of doors; the shrubs were very healthy, and superior to those usually seen at English exhibitions. There were also several collections of fruit trees lifted and planted again in groups to illustrate the cordon, pyramid, and other systems of fruit culture. These, with a great variety of horticultural appliances, made an extensive and interesting outdoor display, amongst which the visitors could ramble and listen to the excellent band of over sixty performers of the Garde de Paris regiment.

Lady Dorothy Nevill sent some skeleton leaves of *Ficus religiosa*, grown and prepared at Dangstein; also various articles in oak wood, showing in place of the natural colour a green tint produced by a fungus (*Peziza aruginosa*), which were much admired, and for which a medal was awarded.

The site selected for the Exhibition was very suitable. The Show was a good one, enhanced as it was by the collections from England. The arrangement of the various groups was tastefully and admirably executed. Nearly all the pots throughout the Exhibition were buried in the soil, so that each separate collection had the appearance of growing in its fixed position. The visitors were very numerous notwithstanding the excessive heavy rains on the first day. But though the arrangement of the plants was admirable, we regret to say that the system, or want of system, for placing the prize cards was extremely faulty. The judging commenced between 9 and 10 A.M. on Saturday morning, and up to 3 P.M. on Sunday there was not a prize card nor scarcely a name of the grower affixed to the collections, consequently the great point of interest to the majority who visit horticultural exhibitions on the first day was comparatively lost. Our good friends would do well to adopt the system of the Royal Horticultural Society of England, and instead of placing an ugly stick in the front of each collection, with three cards affixed about 8 inches long and 2 wide, with a simple number on one, exhibitor on the second, and the number of the class on the third, they should simply place one card with the name and address of the exhibitor on one side, and the number and class on the reverse, and allow the judges to affix the awards; they would then confer a great boon on the public and the press, and would save an immense amount of time and trouble to the hard-worked executive. What should we say in England to an exhibition being open for thirty-six hours without being able to ascertain the name of the exhibitors or the winners of the prizes?

NOTES AND GLEANINGS.

THE thirty-ninth anniversary meeting of the ROYAL BOTANIC SOCIETY was held in the Gardens, Regent's Park, on Saturday, Mr. James Heywood, F.R.S., in the chair. The annual reports of the Council, Auditors, and Secretary were read. From these reports it appears that the affairs of the Society are in a satisfactory state; the receipts in each of the several items had exceeded those of 1877, the balance being some £600 better. The number of new Fellows elected was 112. Four hundred and eighty-one free students' orders for terms of two to six months each had been issued, including sixty-three to artists. The number of cut specimens given to students, professors, and teachers at the several medical and other schools was 63,414—an increase of 20,000 over last year, and 40,000 more than in 1871. The usual exchange of plants and seeds has been maintained with vigour; valuable contributions to the Society's collections were received from correspondents, including the Botanic Gardens of South Australia, Mauritius, Dublin, &c., and also from the Royal Gardens, Kew.

—A CORRESPONDENT who has recently visited Mr. Treseder's nursery at Cardiff states that the thousands of ROSES there are remarkable for strong, clean, luxuriant growth. Mr. Treseder seldom uses rooted Briars, but inserts cuttings, and in this way he not only finds them to root freely, but the roots are much superior to what are produced by the old club style of Briar root which is lifted from the hedgerows.

—THE EAST TOWER HAMLETS FLORICULTURAL SOCIETY held their fourteenth annual Flower Show on the 24th and 25th inst. This Society, Mr. Cole of Kensington Gardens, who was one of the Judges, informs us, is entirely local in its operations; it was founded and is sustained by a number of

working men who call themselves amateur florists, and in most cases the only leisure time they have to devote to flower culture is in early morning or late at night. The exhibition days are the only days that remunerative labour is given up for the plants; and agreeable must be the change to those lovers of flowers when they pass from the noisy dusty streets to tables and banks of choice and beautiful flowers. A Show provided under such circumstances proves what may be done by perseverance, and it affords encouragement to others to cultivate plants and beautify their homes with flowers. We are glad to learn that great success has attended the efforts of this useful Society, for the members are on the increase, and it has liberal support from the public of the district. The exhibitions improve every year, and that just held was a credit to all connected with it. Besides prizes offered and well competed for Fuchsias, Geraniums, Dahlias, Asters, &c., the Show was rendered additionally attractive by a valuable collection of plants from Victoria Park.

— CAPTAIN HANKEY informs us that there is to be seen in the garden of Mrs. Fuller, Rokefield, near Dorking, seven plants of *LILIUM AURATUM* of great size and beauty. No. 1 is 8 feet 6 inches high, and has sixty-four blooms on one stem, eight others on two other stems. No. 2 is 8 feet high, about twenty-six blooms coming. No. 3 is 7 feet 2 inches high. No. 4 is 7 feet high, eighteen blooms all out. No. 5 is 6 feet 6 inches high. No. 6 is 5 feet high, eleven blooms out. No. 7 is 5 feet high, eleven blooms coming. One bloom has petals 7 inches long.

— THE finest flowers, and one of the most beautiful displays of *NYMPHÆA DENTICULATA* that have come under our notice, are in the aquatic house in Sir Henry W. Peek's garden at Wimbledon. Seen towards the evening when dozens of large flowers are expanded the appearance of the tank is most attractive. Amongst other plants elevated above the water is perhaps the oldest plant in England of *Tabernaemontana coronaria*, the pot being quite hidden by a luxuriant mass of *Panicum variegatum*, which in this position, just above the water, has a charming effect. Overhead the profusion of golden blooms of *Allamandas* render this house additionally ornamental; but the *Nymphæas* have of late been the chief feature of the house.

— ADJOINING the aquatic house above referred to is a house devoted to BANANAS, and the growth the plants have made this year is altogether extraordinary. In the spring they were small plants about 2 feet high, and they now have stems nearer 3 feet than 2 in circumference. The foliage is majestic, and grand clusters of fruit are showing—clusters having ten or eleven whorls. The fruit will be ripe about Christmas, and if the plants do not receive any check we shall not be surprised if some of the clusters do not approach 100 lbs. in weight. As an instance of luxuriant tropical vegetation these sturdy and exuberant Bananas are worthy of mention and of inspection.

— MR. HENRY BOOTHBY, Holme Cottage, Louth, writes to us as follows about the FRUIT CROPS in the Fen district of Lincolnshire:—"Apples generally are a complete failure, Normanton Wonder, White Quarrenden, and Stamford Pippin (Laxton's), a fine kitchen Apple, and especially Golden Pippin, have been exceptions. Pears also are a greatly deficient crop, except some new varieties—notably the Hessel, which is bearing enormous crops. Several large-sized standards and bushes of Marie Louise and Louise Bonne of Jersey have been without a single fruit. Red, White, and Black Currants have yielded well; but not so the Gooseberry, which has been very deficient. There have been a few exceptions, and I herewith send a small branch of one of my seedlings, bearing this year for the first time, as a specimen of overloading. The small tree is crowded in every part. The American Blackberries, such as Lawton, Picaninny, and some others, are bearing abundant crops of more than usually fine large fruit."

— FORMERLY the LAVENDER PLANTATIONS of Surrey were confined to the parish of Mitcham, but of late years, to keep pace with requirements of the manufacturers, it has been found necessary to considerably extend the area, and plantations of vast extent are now to be met with in Beddington, Wallington, Sutton, and Carshalton, and it is computed that in this district there are at least three hundred acres under Lavender. It is now about eighteen years since the first plantations were formed in Beddington, and from thence the culture has extended to the adjoining parishes.

— IT may be well to remind those who are proposing

to grow GLOXINIAS FROM SEED that fine flowering plants are produced much earlier by sowing the seed now than by the usual custom of sowing in the spring. If the seedlings are potted in small pots and placed on a shelf close to the glass in a stove they continue growing steadily throughout the winter, and very early in spring are ready to be shifted into larger pots. By that mode of culture fine flowering plants in 5 and 6-inch pots are produced early in June. Seed sown in spring affords plants which yield a valuable succession of flowers later in the season.

CAPE HEATHS.—No. 8.

AUGUST.

ALL those having *Ericas* standing in the open should now endeavour to give them some protection from heavy and continual rains. More especially is this necessary where the plants are placed upon a wet or undrained bottom. Where shelter cannot be given in this temporary situation let them be removed to frames or to their winter quarters; the former is preferable.



Fig. 25.—*Erica infundibuliformis*.

where the accommodation can be given. Here they should have a cool bottom to stand upon, for we have frequently seen Heaths, more especially the softer-growing kinds, go quite blind (that is, lose all the flower) through being suddenly removed from a cool standing place to an open greenhouse stage. Wherever they are placed, however, all the air possible must be given. Look carefully to the watering; see that none are only half watered, as this is a fertile source of mildew. Should this pest put in appearance dust the plants affected with sulphur; use it carefully, because it does not improve the appearance of the plants, and the less waste the better.

Erica Uhria pilosa.—An extremely showy plant. Leaves arranged in threes, linear, and densely clothed with ciliated hairs, dark green. Flowers produced upon the apex of the small branches, mostly in couples; these are tubular and clavate, furnished with short hairs; colour deep reddish purple, green at the ends. Whole flower gummy.

E. nitida.—This is a perfect little gem, and should be more frequently found in amateurs' collections. Leaves obtuse, linear, spreading, arranged in threes and dark green. Flowers terminal, on short footstalks, in small umbels of three to six, globose, with a recurved limb, clear snow white.

E. metulaeflora bicolor (fig. 24, see p. 167).—A charming free-flowering variety, free from the pest mildew, which is such a plague to the old *metulaeflora*. Leaves arranged in fours, linear, smooth, and light green. Flowers in terminal umbels

of six to twelve, tubular, erect and oblong, soft rose colour, with a white neck and limb.

E. ornata.—This is a superb garden hybrid. Leaves arranged in fours, linear obtuse, hairy at the margins, and deep green. Flowers arranged in terminal whorls of six to twelve: they are large, tubular, with an inflated base, where the colour is soft rose or rosy carmine passing into white, and with a pale green band round the neck; segments of limb reflexed, white.

E. lateralis.—A slender-growing species, much branched. Leaves arranged in fours, linear obtuse, erect and dark green. Flowers globose, set upon long coloured footstalks, arranged in terminal umbels of six to twelve, and deep purple.

E. cubica minor.—A slender, dwarf, much-branched plant of great beauty. Branches arranged in whorls of three to five. Leaves linear obtuse, arranged in fours, shining dark green. Flowers in whorls near the ends of all the branches, bell-shaped, and deep reddish purple.

E. Aitoniana Turnbulli.—A slender-growing plant of great beauty. Leaves broadly linear, spreading, slightly recurved, dark green. Flowers an inch or more in length, in umbels of six to eight, tubular. Flowers white, changing to flesh colour or pink by exposure to the sun and air; segments of limb large and spreading, white.

E. infundibuliformis (fig. 25).—This is a dwarf-growing and very elegant species. Leaves arranged in fours, linear obtuse, smooth, erect, and dark green. Flowers in large terminal whorls upon all the branches; tubes long and slender, bright red; limb white; calyx imbricated, leafy.

E. effusa.—This together with *E. ornata* are garden hybrids which originated with the Messrs. Rollisson & Sons of Tooting, and they cannot be too highly recommended, for they are of good habit, large flowers, fine colours, very distinct and profuse bloomers. In this variety the leaves are dense, linear obtuse, dark green. Flowers produced in large terminal whorls of six to twelve, large, tubular, with an inflated base; colour wholly bright reddish crimson; segments of the limb reflexed, straw colour.

E. cerinthoides (fig. 26).—A strong and vigorous grower, although somewhat lax, and therefore requiring more support than many other kinds. Leaves in fours, linear oblong, acute, and profusely clothed with long light-coloured hairs; whorls terminal, many-flowered. Flowers tubular, with a slightly contracted neck, about an inch long, hairy, bright scarlet throughout. In the variety coronata the leaves are shorter and more erect, whilst the whorl of flowers is larger and spread evenly round, forming a corona or crown upon the ends of the shoots.

SUBTROPICAL BEDDING.

THE observations I propose making on this subject were suggested by a transient visit to the small but admirably arranged grounds and houses of W. D. Hemphill, Esq., M.D., Oakville House, Clonmel. Now that gardeners and others will be speculating on what they shall have in their beds and grounds next year good examples of garden decoration cannot be otherwise than appropriate.

Subtropical gardening I take to mean the substitution of bold striking foliage and beauty of form with diversity and brilliancy of colour during the summer months, for the unvarying regular lines and circles of Geraniums, Calceolarias, Verbenas, &c. At Oakville the entire effect is produced by foliage plants, and excellent it is. All love variety in garden embellishment, especially when the display is lasting. Foliage lasts longer than flowers as a general rule, and hence one great recommendation for subtropical plants where they can be used. It would evidently be useless to attempt to bed out tender fine-foliaged plants in an exposed situation and with a poor shallow soil. Given a well-sheltered aspect, deep rich soil, and superior taste, there can be little doubt that the following subtropical foliage plants will enhance the beauty of a garden. A trial has been given in many places in this locality to such plants as Caladiums, Cannas, Begonias, Aralias, Coleuses, Wigandias, Ricinuses, Nicotianas, New Zealand Dracænas, Acanthus, also Beets, Centaureas, Yuccas and Aloes, the numerous family of Solanums, Ornamental Gourds, Kales, &c. All have more or less bold, brilliant, and striking foliage, and some have pretty flowers too. That such plants can be well grown and effectively arranged on a small scale Oakville is an illustration. Arranged with taste in four corner beds, with due regard to height, colour, and effect, are Caladiums, Begonias, Cannas, Ricinuses, Nicotianas, Aralias, Yuccas, and several others. Artistically converging from a central foun-

tain are beds of many rare and novel plants. And here I should specially draw attention to the desirability of a fountain when at all practicable where subtropical bedding is resorted to. Its cooling and refreshing vapour can be readily realised.—W. J. M., Clonmel.

AMARYLLIS GROWING MADE EASY.

IN reply to a correspondent ("W. D. P.") who wants to know more on the above subject than is given at page 447 of your last volume, I have to say that I alluded to what are



Fig. 26.—*Erica cerinthoides* (see opposite).

popularly known to gardeners as Amaryllises—Hippeastrums I believe botanists call them. The plants named by your correspondent are mostly hardy and need no special culture beyond planting in a well-drained border, with the exception, perhaps, of the Guernsey Lily, and that I have never seen cultivated very successfully in this country. What are popularly called Amaryllises are generally grown in stoves part of the season and kept dry another part, all of which I tried to point out was wrong in principle.

The best guide as to the depth a bulb ought to be in the soil is the position it naturally assumes while remaining healthy after being left two or three years without being disturbed. I find that my bulbs are quite on the surface of the soil, rather more so than an Onion is. A bulb 15 inches in circumference (and I have several that size) is in an ordinary 9-inch pot, and measures 8 inches from the surface of the soil to the top of the neck where the leaves are visible. One 12 inches in circumference is in a 7-inch pot and measures 5 inches to the top of the neck; but the different varieties vary considerably in

their measurements, some being wide and flat and others comparatively long and thin. All, however, are alike in their disposition to get on the surface of the soil.

Drainage, of course, is very important with plants which have to remain a long time in one pot; but I never place a great deal of it at the bottom, preferring rather to use lumps of charcoal or something equally lasting mixed with the soil throughout.

The plants flower in a warm greenhouse in March and April, and may be had all through the winter from November with a little more heat, but they are not then so good as they are if allowed to come on more naturally and flower in the spring.

—WILLIAM TAYLOR.

ON THE CYCLAMEN.

[By S. JENNINGS, F.L.S. Read at a Meeting of the Royal Horticultural Society, and extracted from the last issue of the Society's Journal. The first portion of Mr. Jennings's paper appears on page 285, of vol. xxxiv.]

III. *C. VERNUM*.—As its name indicates, a spring-flowering species, in bloom during March and April. There is much controversy as to the identity of this plant, arising from mistakes, afterwards corrected, made by early authorities; so much so that in some catalogues a distinction is drawn between the true *vernum* and the *vernum* of Sweet, which, as I have already pointed out, is really *ibericum*, a winter-flowering species, and in support of this statement I quote Mr. Atkins. Writing to me, he says: "See 'Bot. Mag.' t. 1001, figured as *hederæfolium*; this is the true *vernum*, called *repandum* in the 'Flower Garden,' and various other names here and abroad. The name *repandum* does not appear to have been used before Sibthorp, who associated the plant he thus names with Clusius' *Cyclamen verno tempore florens*."

On the other hand, Colonel Trevor, Clarke, a botanist whose opinion is entitled to the utmost respect, writes thus to me:—"The plant that occupied the name of *vernum* for many years was scarcely distinguishable from *Coum*, except by the leaf. I think it was a pity to disturb *repandum*, which was already muddled up with the autumnal *hederæfolium*, whilst the latter was confused with the summer-flowering *europæum*."

The flowers of *C. vernum* are very fragrant, in colour bright rosy purple, less frequently light rose, rarely white. Leaves broad, angular, and deeply lobed; the upper surface bright green, shining, and broadly marbled with silvery bands. Corm smooth, dark yellow, the roots proceeding from the centre of the under side of tuber.

M. Tyerman remarks:—"This interesting species is quite distinct from any other. The leaves and flowers somewhat resemble those of *hederæfolium*, but the flowers are longer, more slender, and destitute of the teeth-like projections formed by the reflexed segments of the corolla." The flowers and leaves are produced at the same time. This species is a native of Greece and Italy.

[NOTE.—Since writing the above I have prosecuted my inquiries amongst the great *Cyclamen* growers on the Continent, who, while freely admitting the inaccurate nomenclature which holds amongst them, explain that it would be almost impossible to adopt the more strictly correct names, as the former are now so generally used that the utmost confusion would ensue on any attempt to effect a correction.

As regards *repandum*, however, it would seem that the weight of continental evidence is to the effect that the irregularity of the growth of the root and leaves from the corm noticed by me on page 79, together with an irregularity in the form of the segments of the corolla, are distinctive features of this species, which I am assured are constant. If this be so it would certainly justify specific distinction between *vernum* and *repandum*.]

IV. *C. EUROPÆUM*.—Figured in Sweet, p. 176. A summer-flowering species, blooming from June to September, or even later. In cultivation this plant is by no means a free bloomer, but it is valuable as one of the most delightfully scented of all the *Cyclamens*. It is very distinct both in form and habit, and there should be no great difficulty in recognising it. The flowers vary in colour from a pale pink to a deep carmine; the mouth of the corona is wide and slightly angular. Leaves orbicular or reniform, somewhat denticulate, marbled on the upper surface. The tubers are irregular in shape, and grow frequently to a great size; rough, dark in colour, compressed. Roots proceed mostly from the under surface, but more or less from all parts of the tuber.

In habit it differs from other *Cyclamens* in forming short

gouty stems, which produce leaves and flowers; these stems if cut and planted will again strike root and produce plants. The growing shoots for leaves and flowers have a way of stoling horizontally underground for some distance before seeking the surface and developing, a habit likewise of *hederæfolium*, so that in pots when the spring growth is commencing the plant assumes the appearance of a nest of shoots.

V. *C. HEDERÆFOLIUM*.—This is the autumn-flowering species, that to which I have before alluded as found growing wild in some woods in Kent; but its native home is on the mountains of Switzerland, as well as in Italy, Greece, the Ionian Isles, Algeria, and elsewhere. Under this species should be classed a few others which have been described under different specific names; they are, however, only geographical forms of the same species. *C. africanum* or *macrophyllum*, a large coarse-growing variety, and *C. græcum* or *latifolium* is another, so also is *C. neapolitanum*, and on the Continent this species is also known as *C. autumnale*.

There is considerable variety both in shape and hue of the foliage as in the colour of the flowers, the former being sometimes dark green and almost free from marbling, and at other times really beautiful with bright silvery bands and markings. In the leaf this species most nearly approaches *C. vernum*, with more or less prominent lobes. The flowers vary in colour from pure white to the deepest rose; the reflexed sections of the corolla display at each edge a tooth-like projection, giving to the corona of the flowers a peculiarly diadem-like appearance. The tubers are very large, sometimes as much as 12 inches in diameter, round, compressed, dark brown, very rough, the roots proceeding from all parts of the corm.

Regarding *C. hederæfolium* the Hon. and Rev. Mr. Boscauwen writes to me that he has had it planted in the open ground for the past fifteen years, where it flourishes, so that we may say it is quite hardy, having been unaffected by 20° to 30° of frost.

VI. *C. PERSICUM*.—Of this well-known species it is unnecessary for me to say very much; it is the *Cyclamen par excellence* for fragrance, colour, and display, and it is upon this plant that the cultivator has spent his most earnest devotion. The finest specimens grown come to Covent Garden Market, and so great is the demand that one firm alone sends out from fifteen thousand to twenty thousand plants annually; but in proportion as the flowers are improved in size it appears certain that they lose in fragrance, because in its natural condition *C. persicum* is so fragrant that a single plant of it in bloom will fill a large room with its scent.

Mr. Boscauwen writes to me:—"I have had *C. persicum* in the open air for five years or longer. The plants are some of them under slight shade, others exposed on a north bank; they are, when in a north aspect, evergreen. I send you leaves that are over a year old. When evergreen they do not blossom so well in winter. The frost does not seem to injure them: the blossom sent stood 10° of frost last week. I do not think since I have had *persicum* out we have had over 16° of frost; however there has been skating within a few yards of the bank where they were growing."

It is to this species that my remarks on the cultivation of the *Cyclamen* mostly apply, all other species being hardy, or at least half-hardy. There is one peculiarity which distinguishes *persicum* from all the other species of *Cyclamen*. In all the rest, as soon as the flower has been fertilised and the seed-pod formed the peduncle commences to assume a spiral form, and as the seed ripens it is thus carried as on a contracting corkscrew down to the ground, and eventually under the surface, where it may germinate. *Persicum* is an exception to this rule.

(To be continued.)

HARDY PERENNIALS.

I WISH to thank Mr. Taylor for the useful article on herbaceous plants which appeared in the Journal on pages 121-2. May I ask him to give us a list of plants which bloom in the first half of the year? I am commencing to grow these most interesting plants, and any hints I can get from your columns will be much valued. At present I have very few, only such well-known species as *Phlox*. I would ask him to give a list of all the best *Aquilegias*, *Campanulas*, *Hepaticas*, and, above all, *Delphiniums*. I intend to purchase the varieties he names, and I shall be glad if anyone who knows the value of these plants will give me an idea of the cost of forming such a collection.

I have no catalogues of any herbaceous plant-growers, and so am a little at a loss as to the expense. I do not want any

alpines at present, only herbaceous perennials.—JOHN B. M. CAMM, *Charmouth*.

{The following are amongst the best hardy perennials flowering during the first half of the year. The prices range from 6d. to 3s. 6d., and would probably average 1s. to 1s. 3d. all through.

Anemone apennina
A. stellata fulgens
Anthericum granifolium
A. Liliago
A. Liliastrium
Aquilegia chrysantha
A. cærulea
A. cærulea alba
A. Witmanniana
Campanula carpathica alba
C. pulia
C. pumila alba
C. turbinata
C. turbinata albidia
C. Van Houttei
Centranthus ruber
C. ruber alba
Cheiranthus alpinus
Convolvulus mauritanicus
Delphinium Agamemnon
D. alopecuroides
D. atro-vioacea
D. azureum plenum
D. Barlowi perfectum
D. Belladonna
D. Felix Poulet
D. cardinale
D. cashmerianum
D. conspicua
D. Emperor of Prussia
D. formosum
D. formosum celestinum
Dielytra spectabilis
D. spectabilis alba
Erythronium giganteum
Gentiana acaulis
G. alpina
G. asclepiadea
G. bavaria

Gentiana gelida
G. verna
Hemerocallis flava
H. graminea
H. japonica
Hepatica angulosa
H. triloba alba
H. triloba cærulea plena
H. triloba rubra fl.-pl.
Iberis corifolia
I. gibraltaria
Iris iberica
I. susiana
Linum flavum
Lithospermum prostratum
Lychnis chalcidonica fl.-pl.
L. chalcidonica alba fl.-pl.
L. Haageana
Michauxia campanuloides
Mimulus moschatius Harrisoni
Myosotis palustris semperflores
M. dissitiflora
Nierembergia rivularis
Oenothera macrocarpa
G. riparia
Paeonia anemonæiflora
Papaver alpinum
P. bracteatum
P. orientale
Primula cortusoides amœna
P. cortusoides amœna alba
P. japonica
Spiraea aruncus
S. japonica
S. palmata
S. Filipendula flore-pleno
S. venusta
Viola cucullata
V. pedata

—WILLIAM TAYLOR.]

CHOICE GARDEN ORCHIDS.—No. 3.

ÆRIDEES, Lour.

(Continued from page 486, Vol. XXXIV.)

Ærides Houlletianum, Rehb. filis. Syn., *A. Mendellii*, Hort.—This rare species in habit of growth appears to be intermediate between *A. virens* and *A. falcatum*. Leaves strap-shaped, slightly recurved, tightly clasping the stem at the base, 6 to 7 inches long, light shining green in colour. Racemes simple, pendant. Flowers resembling in shape those of *A. falcatum*. Sepals and petals buff, shading towards the base into creamy white. Lip large, deep purple in front, white towards the base. Summer months. Cochinchina. 1868.

A. nobile, Hort. (Warn. Select Orchid. 1st Series, t. 11).—A very handsome species, by some considered a form only of *A. suavisimum*; it differs, however, in the three lobes of the labellum being nearly or quite equal in length, and the middle lobe being very slightly bifid. Leaves ligulate, obliquely emarginate at the apex; colour pale green, with darker dots both on leaves and stem. Raceme 2 to 3 feet long, branched, many-flowered. Flowers very fragrant. Sepals and petals spreading widely, white suffused with rose. Lip three-lobed; the side lobes large, creamy yellow; middle lobe tongue-shaped, slightly bifid, with entire margins, white, freckled with rosy purple. Spur conical, incurved, yellow dotted with red. June to August. Java.

A. crassifolium, Rehb. filis.—This extremely rare species has only flowered a few times in this country, but it lays claim to rank amongst the very finest in the genus. It is a dwarf dense-habited plant. Leaves closely imbricating at the base, lorate, obliquely bilobed at the apex, coriaceous in texture, dark green, freckled with purple dots. Raceme pendant, longer than the leaves, many-flowered. Sepals and petals oblong obtuse, deep pink, white towards the base. Lip large and spreading, deep pink. May and June. Moulmein. 1872.

A. Lobbii.—A fine species, of which we, however, have failed to find any figure to refer to. Leaves closely imbricating, lorate, obtusely bilobed at the apex, some 8 to 10 inches or more long, and bright green. Raceme pendant, very much longer than the leaves, frequently branched, many-flowered. Sepals and petals about equal, oblong obtuse, white suffused with rosy pink. Lip spreading, acute, rosy pink and white with frequent spots. June and July. Moulmein.

A. Lobbii, Hort.; var. *Ainsworthii*, Hort.—This variety is

probably represented in this country by only one plant, and therefore unique. It is a grand form, in which the raceme is wonderfully developed and the flowers wholly rich purplish crimson. June and July. Moulmein. 1818.

WEEDS.

A CORRESPONDENT, "A. B.," requires to know the best way of getting rid of weeds, and for answer one might naturally reply, "Chop them up." But this is a matter of such importance in the economy of a garden that I cannot lose this opportunity of drawing more particular attention to it.

Weeds are a source of vexation for many reasons. They entail a positive loss by exhausting the supplies of nutritious matter stored up in the soil for the benefit of the legitimate crops; they are offensive to the eye, and above all—and this is my point—the larger they grow the more loss do they entail and the more difficult are they to eradicate. Taken in their infancy as they first spring from the soil hundreds of them may be destroyed every time a light sharp hoe is drawn over the surface, and in a brief half hour as much work is done, and done, too, to far better purpose, than could subsequently be effected under several hours. Frequent surface-dressings, moreover, are highly beneficial to growing crops; it is a well-known fact that the metropolitan market gardeners find it profitable to have the surface often stirred with hoes among growing crops, which are thus brought earlier to maturity than when left alone with soil drawn up to the stems after the ordinary fashion.

There is no saving, no economy, in leaving weeds to grow at random for a month or two and then taking on extra labourers to clear them away, for then heavy hoes are required and they must be wielded with considerable power. Nor can the weeds be left to die, most large weeds retaining sufficient vitality after they are chopped up to start again into growth after the first shower, so there is nothing for it but raking them off and wheeling them in barrows to the rubbish heap, all which work is a great waste of time and money. Let me therefore advise "A. B." and every reader of the Journal to keep the size of their gardens well within the scope of their means, so as to be able to keep down the weeds; and, by affording an ample supply of labour power to thoroughly cultivate the soil, secure crops more abundant and finer than ever can be had under the wasteful method that is now much too prevalent.—EDWARD LUCKHURST.

NATURAL PRODUCTIONS OF CYPRUS.

A CORRESPONDENT has forwarded us the following remarks on Cyprus, taken from Franz von Löher and Mrs. A. B. Joyner:

"The principal productions are cotton, hemp, silk, corn, opium, tobacco, turpentine, liquorice, madder, several dye woods, gum tragacanth, and colocynth. Fruits of all kinds, in particular Grapes, Oranges, Lemons, Pomegranates, Olives, Walnuts, Figs, Mulberries, Apricots, &c.; the Carob Tree (*Ceratonia siliqua*) abounds in some districts. There were once extensive plantations of Sugar-cane. Large quantities of fine vegetables are grown. Cyprus was celebrated for Roses; Hyacinths, Anemones, Ranunculuses, Narcissus, Poppies, &c., grow wild. Trees and shrubs of all kinds grow luxuriantly, including Pines, Firs, Cypressess, Ashes, Oaks, Beeches, Elms, Myrtles, evergreens, Oleanders, &c. One of the most important plants of the island is *Ferula græca*, of the stalks of which the Cypriotes form a great part of their household furniture, and the pith is used instead of tinder for conveying fire from one place to another.

"The peasantry distil rose, orange, and lavender waters, myrtle and ladanum oil.

"Climate.—The climate is generally healthy, excepting on some parts of the coast, but this is entirely due to the neglected state of the country; if the much-needed drainage was properly carried out the most satisfactory result would ensue. As in most eastern countries, the rain falls at stated periods, commencing about the middle of October and continuing until the end of April, with the exception of February, which is often quite dry; after June slight showers fall from time to time, but have little power to modify the heat, which is, however, tempered occasionally by a cool wind. In September the great heat sets in, but does not continue for any length of time. The climate is, of course, cooler in the more mountainous portion of the west than in the flat eastern side.

"General Cesnola lived ten years in the island; his summer

residence was in the village of Dali, about halfway between Nitrosia and Larnaka, a small white cottage in a grove of Orange and Lemon trees. 'This simple abode became our summer resort for several years. It was surrounded by about six acres of ground laid out in alleys of Lemon and Orange trees and the favourite Caistrà, a delicious species of Nectarine. Two noble Walnut trees overshadowed the traditional alakah (the oriental or common well), and extended their shade to our out-of-door saloon, where we sat the day long reading, writing, and chatting, with the grateful breeze at all hours coming through the long verdant alleys hung with luscious fruit. A small rivulet of the purest water found its way from cold sources to the feet of these Walnuts trees, the broad leafy branches of which formed the ceiling of our drawing-room, and being blocked by a pile of rough stones, and tumbled, cascade fashion, into a basin scooped out to receive it, which served as our wine-cooler and refrigerator. We soon adopted the housekeeping system of the peasants and hung our plate baskets and table linen among the trees, and spreading out the thick mats of the country, with a wooden settle dining-table, where our Turkish attendants served us with as much attention as if at a state dinner, though not with quite the same ceremony. A little further on a few Turkish rugs and divans formed the reception room of state for the notables of Dali, consisting of an old cadi, an illiterate Greek priest, and three wealthy Turks of Potamia, who inhabit what was once a royal palace and the summer residence of the Lusignan queens.'" I wish I dare write what he says further of the charms of this beautiful island, but I must not trespass on your time longer.—S. S.

BOSCobel.

UNDER the above title we have received a pamphlet by Rev. Henry G. de Bunsen, M.A., Rector of Donington, and published by Simpkin, Marshall, & Co., London, which gives a full account of the Royal Oak, Boscobel House, and Whiteladies. To all who are interested in this historical old place we commend the pamphlet as being highly entertaining, as the following extract will show:—

"Boscobel House is the same house, and very much in the same condition, as when King Charles II. visited it and took refuge there on September 6th, 1651, after the battle of Worcester. It would appear that this house was built for the express purpose of hiding so-called 'recusants'—that is, those who, being Roman Catholics, refused to take the oath of supremacy. Hence the different hiding places where priests and others who were members of the Church of Rome could find an asylum from persecution, and worship God after their own fashion; for there was an 'oratory' in this house. There hangs over the chimney-piece of the dining-room an excellent portrait of Charles II.

"Adjoining the dining-room there is a small inner room. Upstairs, on the first floor, there are two contiguous bedrooms. A secret door in the wainscoting of the first bedroom opens into the large chimney stack which runs up from the bottom of the house to the top. Through this door you enter into a recess or closet having a trap door in the floor, by means of which formerly people could descend to the bottom of the chimney stack, where there is a door opening into the garden. It was through this perpendicular passage that Charles could pass unobserved from the garden into the house and to his hole, or escape from the house through the garden to the adjoining wood. In this room, just above the staircase and close to the window, there is a loose piece of board in the floor, and by lifting up this the hole (3½ feet by 4½ feet wide and 5 feet 2 inches deep) may be seen in which the king, it is said, passed one night in hiding. A short ladder gives the visitor an opportunity of going down into it, and enables him to realise in the total darkness of that small place what the king's feelings must have been during the twelve or more hours which he spent there in that dark and narrow space.

"THE ROYAL OAK.—Not far from the garden, in the field adjoining it, stands the Oak tree which is shown as the Royal Oak, surrounded by a substantial iron palisading. Whether this is the identical Oak in which Charles II. took refuge during his stay at Boscobel or whether it is another tree, which, when the 'poor remains of the Royal Oak (as Mr. Plaxton says), were fenced in by a handsome brick wall at the charge of Basil Fitzherbert, Esq.,' stood by its side, or has sprung up since within the same enclosed space, is one of the disputed points of the present day; for by some authorities the present tree is said to be between 400 and 500 years old, by others only 160 or 170 years. The author of the pamphlet gives all the authorities he has been able to collect, which seem to point to the present tree as not being the Oak in which Charles II. took refuge, and then gives the account of a living witness, in whose family the tradition has been handed down from father to son, that the present tree is the identical

Royal Oak in which Charles II. was hidden for a time. This later testimony is from the present Earl of Bradford, whose estate, Weston Park, adjoins the Boscobel property. His lordship's account, which is dated 'Weston Park, May 6th, 1878,' is as follows: 'The account I have been accustomed to hear all my early life from my father about the Boscobel Oak is that after the king had been for some days confined to the house at Boscobel they could not dissuade him from going out to get fresh air, or even from going sometimes further from the house than was prudent. On one occasion, when he was out with one or two of the Penderils, sounds were heard of horses' feet not very far off. There was not much time for consideration, but his attendants thought he might not be able to get back to his hiding place in the house quietly, or perhaps thought that even if he did he might be discovered there, and recommended him to go into a thick part of the wood (it was early in September and the trees and underwood still in full leaf), where they helped him up into an Oak tree (not a decayed but a growing Oak tree), and implored him on no account to come down from the tree until they should return to him and tell him all was safe; they then went as if to their work or ordinary occupation. The troopers of the Parliament fell in with them, made all sorts of inquiries about the house, and its inmates, and its neighbourhood, and ultimately rode on without discovering how near they were to the king. The Penderils returned in due time and conducted the king back to the house.

"The tree was from that time well known to them and doubtless to the owner, Mr. Giffard, and other loyal friends in the immediate neighbourhood; and after the Restoration, which was only nine years afterwards, probably numbers of people visited the tree, although at that time in a thick coppice with only woodman's paths or very bad cut roads in the neighbourhood. The coppice was subsequently cleared, I apprehend in the time of the Fitzherberts, who inherited from the Giffards, but the tree into which the king climbed was left standing, and regarded with pride and affection. It has been known from father to son by succeeding generations from that time to this. As to its being a substitute of any sort, least of all an acorn from the original tree, I discard the idea as ludicrous and absurd. I have known the tree myself for half a century; it looks now very much as it did then; and nearly as long ago as that I remember my father speaking of the absurdity of the stories then current as to the owl flying out of the decayed tree, the present tree being an acorn from the old one, and such like. He used to say that he had heard his father and, I think, his grandfather, speak in the same sense, and the recollection of the tree by his grandfather, my great-grandfather, would easily carry him back as far as 1740, which would be less than ninety years after the king sat in the tree.

"I may mention with respect to Oak trees and Oak wood in this neighbourhood, that there are trees still alive in this park estimated to be 1100 or 1200 years old; there are others reckoned to be 600, 500, and 400 years old. Sometimes a smaller tree is known to be considerably older than a larger one, and I should myself estimate the tree at Boscobel to be 400 or 450 years old; but it would have been equally capable of affording a hiding place for a man, in the middle of a thick wood, whether it was then some 220 years old, as I estimate it, or whether it were 100 years younger or older.

"I further remember my father speaking of hearing from those who went before him that some of the labouring men on the estate had pointed out the tree from father to son as the tree which the hander-down of the tradition himself remembered as the Royal Oak. It is mentioned in some of the histories and guide books that great quantities of branches and pieces of the Royal Oak had been from time to time broken off and carried away by visitors. Now it so happens that the appearance of the tree at present looks exactly as if a great many of the lower branches had been broken or cut off, and no doubt they were; but it must be remembered that visitors were comparatively few before the days of railways, excursion trains, and cheap guide books, and that since these things were invented, and indeed before, the tree has been protected by a wall, and later by a high railing."

WORK FOR THE WEEK.

KITCHEN GARDEN.

PULL the main crop of Onion as soon as ready, and have them thoroughly dried before storing them away, freeing the bulbs of roots and adhering soil, but do not peel them, as is too frequently the case, or they will not keep sound and heavy. The ground upon which the Onions have been grown will be available for early Cabbages, which as a spring crop is one of the most important, indeed it is the most generally valued of spring and early summer vegetables. The ground should be well and deeply dug; if in good heart from recent manuring none need be applied, and in very light soils forking over the surface will be sufficient, as in such soils the Cabbages go much to leaf, and do not produce hearts so early, nor withstand the weather so well, as those in firm soil. We like to

give the ground before planting a dressing of salt, lime, soot, and wood ashes—half a peck of salt, half a bushel of lime, half a peck of soot, and a peck of wood ashes—which may be applied to 30½ square yards in the quantity named. The plants should be kept free of grubs, caterpillars, slugs, &c., by dusting them with quicklime or dry wood ashes, and they should be planted before they become gross and leggy, planting them 18 to 20 inches apart, as they will not be allowed to stand long after coming in. Plantations of Globe Artichokes should be gone over and have all useless stems cut away and any decayed leaves removed, so as to admit light and air to the base of the crowns. Remove the leaves from over the clusters of Tomatoes, and keep the shoots well stopped so as to aid the swelling of the fruit, watering well in dry weather. The fruit when it changes colour may be placed in a house or upon slates in a frame or pit to ripen, where it will do so perfectly.

FRUIT HOUSES.

Figs.—In Fig houses the trees not unfrequently grow rampantly, and consequently produce thin crops of fruit. In that case root-pruning may be resorted to, and the roots be confined to a border of from 3 to 4 feet in width. If the drainage be defective it will be necessary to lift the trees in the autumn so soon as the leaves commence falling and replant in fresh soil. Place 9 to 12 inches of rough stones or brickbats for drainage, and over it a covering of rather rough lime rubbish, using the finer parts for mixing with the compost in the proportion of a tenth to turfy loam, and a twentieth of crushed or half-inch bones, and in replanting ram the soil well about the roots, for short-jointed fruitful wood cannot so well be secured by any other means than by a solidified compost. The border should be 30 inches deep. Should the drainage be good it will only be necessary to confine the roots to the narrow border and removing some of the old soil from amongst them, top-dressing with turfy loam with an admixture of lime rubbish and crushed bones as above stated. See that those in pots placed outdoors do not root from the base of the pots; cut off all such roots, top-dress with decayed manure or rich loam with a sprinkling of crushed bones, and afford a good watering, after which afford no more than to keep the foliage fresh.

Pines.—Suckers obtained from the summer-fruiting plants will soon be ready to repot. It is well to divide the plants into two batches; one, the strongest, should be shifted into their fruiting pots as soon as ready, employing 10-inch or 11-inch pots according to kind, affording them a position near the glass in a light airy house, keeping them gradually growing on through the winter. The plants so treated will be readily excited into fruit next May or June, and will afford a good supply in late summer or early autumn. The other plants, suckers from the summer fruiters, not large enough to shift into fruiting pots, winter in the 7 or 8-inch pots, transferring them to the fruiting pots as soon as ready in the spring, which with suckers of Smooth-leaved Cayenne that were started last March will provide a successional supply of fruit through the winter months. A re-arrangement of the plants should now be made in order to separate the fruiting from the non-fruiting plants, as many of those that were started from suckers of last summer's fruiters will have fruit swelling off. Those plants not fruiting will have completed the growth, and should have air very liberally for the next six weeks when the temperature exceeds 80°, maintaining the bottom heat steady at 80°; and all plants well established—i.e., well rooted, should have a bottom heat of 80° to 85°, but recently potted plants, or those not having roots well established in the fresh compost, maintain at 90°. Plants swelling off the fruit should have moderate atmospheric moisture, admitting air just a little at the top of the house early in the morning, so as to allow of any superfluous moisture escaping before the sun's rays act powerfully or directly upon the fruit. Any fruit it is desired to retard should be moved to a rather cool or shady house, affording an abundance of air.

Melons.—In pits and frames the last batch of plants will have set or be setting the fruit. Ours are well set, the atmosphere having been kept dry, and are swelling away freely. We now sprinkle the plants with tepid water and close early in the afternoon at 80°, admitting air at 75°, increasing with the advanced sun heat to 85° or 90°. Those in frames should be attended to as required with linings of sweetened fermenting material as the nights become cold, so as to prevent the temperature falling below 65° in the morning; and if mats are placed over the lights after the sun leaves the frames, and removed shortly after the sun has risen, very much greater success will be had with late Melons than usually results from frames. Maintain a night temperature of 70° to 65° at night and 75° by day in Melon houses heated by hot water. As the days are shorter lessened supplies of water will be required; yet give sufficient to keep the soil in a moist state whilst the fruit is swelling, but after it is full-sized or ceases swelling afford no more than to maintain the foliage from flagging. Keep the laterals well stopped to one leaf and rub off superfluous shoots as they show, allowing nothing to interfere with the principal leaves or to retard the swelling of the fruit. Plants with fruit advanced for ripening should be kept dry at the roots and have air very liberally, with, if practicable, an advance of temperature, avoiding a close moist atmosphere, which invariably results

in cracking of the fruit or inferior flavour. The last batch of plants will have been planted in houses and will be growing freely. The leader must not be stopped until it reaches the trellis, when it may be pinched out if more than one leader is wanted, or may be allowed to grow two-thirds of the distance up the trellis if only one leader is wanted and then be stopped, removing every alternate lateral directly they can be handled. Maintain a moist and warm atmosphere—70° to 75° by artificial means, with the bottom heat at 80° to 85°. Keep a sharp look-out for canker at the collar and upon the stem, rubbing quicklime well into the parts affected, striving to maintain a clean growth and healthy collars to the last.

Cucumbers.—The autumn fruit should be encouraged to make a strong growth by earthing-up betimes, affording plenty of water at the roots, and in the atmosphere during bright weather, syringing at 3 to 3.30 P.M., damping two or three times a day, closing at 80°. Maintain a temperature of 70° to 75° from fire heat, and attend well to thinning the shoots and training. There must be no want of attention to thinning-out old growths in fruiting plants, training and stopping, and the removal of bad leaves. Plants in frames that have fruited for some time will be restored to vigour by a good thinning-out of the old shoots, and the addition of a little fresh loam as a top-dressing, laying some of the young growths in the loam, giving a moderate watering, and a sprinkling overhead on bright afternoons, closing at about 3 P.M. With linings and the protection of mats over the lights Cucumbers will be produced for a lengthened period. Houses that are intended to be used for a supply of fruit at Christmas should be cleared with dispatch, so that the needful cleaning, repairs, or painting may be done thoroughly before the house is wanted.

PLANT HOUSES.

Stove.—*Clerodendron fallax* is one of the brightest of stove plants, and is best raised from seed, which will now be ripe, and should be sown at once in small pots, the plants not transplanting well. Place the pots in a shady part of the stove until the seedlings appear, when they should be put on a shelf near the glass, shifting into 6-inch pots when they have made a pair of leaves. They must be kept near the glass, and in spring shifted into 8 or 10-inch pots. They thrive well in turfy loam with a fourth of leaf soil and a free admixture of sand. Old plants which have ceased blooming may have the shoots shortened back a little, which will induce some growth, but before winter they must be headed-back rather closely. If kept warm and damped with the syringe every evening they will soon break, when they may be turned out of the pots, the ball being partially reduced, and potted in smaller pots for the winter. *Luculia gratissima* is not a stove plant and not exactly a greenhouse plant, but it does best in an intermediate house or a cool stove. The plants should now be afforded plenty of light, and be kept rather cool and well ventilated so as to induce flowering, for if kept moist and warm they will continue growing. Too much water must not be given at the root, and by subjecting a portion of the plants only to this treatment at present, and a batch later on, a succession of bloom will be obtained. *Amaryllises* will now be fast completing their growth and should have a lessened supply of water, but avoid anything like a parching dryness at the roots. The evergreen kinds, of which there are too few, must have sufficient water to keep the foliage fresh, and be placed in a light airy situation in a cool stove to solidify their growth. Winter-flowering *Begonias* must not suffer by want of pot room, yet afford sufficient soil to secure a good growth with healthy foliage, assisting plants that are required to flower in small pots with weak liquid manure frequently. *Euphorbias* that have been placed some time in cooler quarters must not remain too long or the roots will suffer, particularly if the watering be excessive, in which case they will be of little value. They should have a house or pit with plenty of air and all the light practicable. *Poinsettias* should not be kept too long in frames or pits, or they will when moved to warmer and drier quarters lose the lower leaves. They with the *Euphorbias* should have a night temperature of about 55°. *Ixoras* that have been employed in conservatory decoration must be returned to the stove—placed in the warmest part, cutting off all their old flowers. *Medinilla magnifica* should now be kept rather drier and have a light airy situation, ceasing to syringe overhead. *Clerodendron Balfouri* and *Bougainvillea glabra* which have been for a time in cooler quarters must be returned to the stove, but the coolest and most airy part should be selected, and water should be gradually withheld, yet not so as to destroy the foliage prematurely. *Æschynanthuses* coming into flower must be well attended to with water, especially those grown in baskets, or the flowers will be of short continuance. Any varieties of *Gloxinias* it is desired to increase should have the leaves inserted four or more around the sides of a 6-inch pot well drained and filled with sandy loam and peat, with half an inch of sand upon the surface. Any scarce sorts may have the leaf laid flat on the surface, previously severing the midrib three parts through on the under side, placing a pebble on the upper side of the leaf over each incision. See that the plants that have ceased flowering are not dried off too quickly, but are afforded light, air, and the requisite

warmth until the growth is completed. Similar remarks apply to Achimenes.

TRADE CATALOGUES RECEIVED.

William Paul & Son, Waltham Cross, London, N.—*Catalogue of Bulbs, Camellias, &c.*

T. Bunyard & Sons, Maidstone, Kent.—*Select List of Hyacinths and other Bulbs.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense. Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

REFERENCES (J. S.).—The writings to which you refer are scattered over a long period. See page 158, vol. xxix., and page 398, vol. xxxii., as examples of what you require.

CARPET BEDS IN BATTERSEA PARK (J. T., *Huntingdon*).—We have seen the beds to which you refer, and have admired their chasteness and general high finish. Your suggestion shall have our attention.

GRAPES SHANKED (A *Young Gardener*).—The shoulder of Tróvén Frontignan is seriously shanked, the leaf of Mrs. Pince much scorched, and the berries, what few of them that have set, spotted. In all probability the roots of the Vines are in a bad state, owing either to stagnant or otherwise unsuitable soil; and we also think that you have kept the house too close and moist, and the temperature generally too low, the Tróvén Frontignan thriving best in what is known as Muscat heat. You cannot arrest the decay of the present crop, but you may improve the condition of the Vines and have better results in future years. Presuming that the viney is heated we advise you to keep up a minimum night temperature of 65° with a proportionate rise during the day, giving also abundance of air, and not entirely closing the house at night. This will accelerate the ripening of the Grapes and promote the maturation of the wood. As soon as the crop is cut we should renovate the border by first draining it well and then removing a good portion of the old soil, which is probably sour, and applying fresh soil to the roots. The best soil is turfy loam, but it is not always procurable, and it is well to remember that good Grapes can be grown in ordinary garden soil, provided it is well drained and in a fertile state. If crushed bones, a bushel to each cartload, or wood ashes, or charred vegetable refuse, also a little soot, can be mixed with the soil they will greatly improve it. Raise as many of the roots of the Vines as you can without injury, and cover them 4 or 5 inches deep, placing a heavy top-dressing of rich manure on the surface of the border. If you can do this quickly while the foliage is still green you can induce the formation of fresh roots before winter, especially if you keep the house warm, close, and moist, so as to preserve the foliage as long as possible. If you cannot renovate the border early in the autumn you may do it in fine weather after the Vines have been pruned. First secure healthy root-action, and then carry out the instructions as to temperature, ventilation, &c., that are given in "Work for the Week," and you will succeed in your attempts to grow good Grapes.

FREED POTTING SOIL OF WORMS (K. T.).—The most certain method is to subject it to heat—char it lightly over a good fire or heat it upon iron plates over a fire, but not so highly as to burn it; or the compost some time before it is used for potting may be turned over in layers of about 3 inches thick, sprinkling each layer with soot in the proportion of about a twentieth of that of the compost, and turning it over in about a week. Lime water may also be applied, which will drive the worms from the compost. A peck of lime to thirty gallons of water, stirred well up, allowing to stand forty-eight hours, and then saturating the soil with the clear lime water. The soil will require to be placed in a shed to dry some time before use, as it does not answer to pot plants in wet soil.

AMARYLLIS TREATMENT (W. M.).—They should be moved to a light airy situation in the stove, keeping them moderately supplied with water. See notes in this week's "Work." They will flower next spring or early summer provided the growths be well matured. Turfy loam with a fifth of well-decayed manure will grow them well, good drainage being afforded.

WINTERING ALLAMANDAS, CLERODENDRONS, AND BOUGAINVILLEAS (Idem).—They are deciduous, losing their leaves in winter, and should now have the supplies of water gradually lessened, and when the leaves fall afford no more than to keep the wood plump. Prune in February, removing the weak wood, cutting the Allamandas and Bougainvilleas back to two joints if the plants are as large as desired, or shortening the strong shoots so as to induce shoots for the covering of the trellis. The Clerodendrons must not have more than the weak shoots thinned, and any of the unripe points of the long last-year growths shortened to firm wood. Turfy loam, with a fifth part of well-decayed manure, will grow them perfectly.

PRUNING PASSIFLORAS (Idem).—Prune them in spring or before they commence growth, cutting back the side shoots to within two or three joints of their base, and any shoots required for extension should be cut back to firm well-ripened wood. The flowers are produced upon the current shoots, some few producing cymes of flowers from the old wood, as P. princeps and P. Madonna.

CLIMBERS FOR GREENHOUSE (An *Old Subscriber*).—We presume you require them for the roof or rafters. Habrothamnus fascicularis, Jasminum grandiflorum, Kennedyia inophylla floribunda, Passiflora Imperatrice Eugénie, Tecoma jasminoides splendens, Tacsonia insignis, Rose Maréchal Niel, Clematis Lucie Lemoine, Lapageria rosea, Rhynchospermum jasminoides, Plumbago capensis, Mandevilla suaveolens. Those marked with a star are the most suitable for roofs, the others for pillars or short rafters.

SELECT PHLOXES (J. Pearson).—The following will probably suit you,

but to do well they require liberal treatment:—Jessie Laird, D. P. Laird, Croix d'Honneur, Souvenir de Berryer, Mrs. Balfour, William Blair, Madame Marie Saison, Roi des Roses, Mons. Hock, Madame Ladonette, Lamartine, and Lothair.

LILIUM AURATUM NOT EXPANDING (F. W.).—We do not think the slight shade from the Pear tree will account for the buds not opening, but should attribute it either to the drought at the early part of August, which, for want of a surface dressing, destroyed the stem roots; or the poisons of cow dung, one-third to two-thirds water, having caused the roots to decay. The fungus on the Elm stump is Sphaeria mammillaris.

CLEMATIS JACKMANNI MILDEWEED (Idem).—This is a result of the late drought—dryness at the roots. Water copiously at the roots in dry weather and overhead before flowering, dusting with flowers of sulphur for the destruction of the mildew. Clematises are not particularly subject to fungoid attacks.

MARECHAL NIEL ROSE NOT THRIVING (J. V. U.).—The Rose planted in March and allowed to flower freely the same season has become exhausted. It ought to have been cut back for the purpose of encouraging the growth of young wood. Keep the plant healthy by watering it as required and syringing, and early in the spring prune it rather severely, and you will probably obtain healthy growth.

WASPS EATING GRAPES (C. J. W.).—Stretch the hexagon netting made by Haythorn of Nottingham over the openings of your ventilators, and so exclude the wasps from the Grapes. You may obtain the netting direct from the maker or through any nurseryman.

PROTECTING PEARS FROM WASPS AND FLIES (E.).—There are two ways in which this can be thoroughly done—either erect a light framework of timber over the pyramidal trees and stretch some of Haythorn's hexagon netting over it, or tie a loose bag of gauze over each fruit. The netting is altogether preferable, because you can more readily watch the progress of the fruit. We consider this the best of all garden netting, excluding as it does insects as well as birds from fruit, and it is very durable, lasting nine or ten years with care.

TRANSPLANTING PYRAMIDAL FRUIT TREES (Idem).—They may be removed as early as September, removing their leaves at the same time, but, of course, you would not touch the roots of a tree till its crop of fruit was gathered, and some sorts require to hang much longer than that.

VARIOUS (Idem).—Cherries for a succession are Early Purple Glean, May Duke, Governor Wood, Elton, Kentish, and Morello. The best red Raspberry is Prince of Wales, and the white so called is Yellow Antwerp. The goodness of Asparagus depends solely upon culture. Procure strong roots of the sort common to gardens, such as respectable nurserymen supply, afford it high culture, and you will have what you require. The Ivy, if kept within moderate bounds, will not injure the Elm tree.

TECOMA RADICANS MAJOR NOT FLOWERING (A. B.).—Encourage the formation of stout shoots by a judicious system of pinching and pruning. Keep the shoots well apart, so as to admit plenty of light and air among them. Let your plant have ample space to ramble, and you will in due course be rewarded with rich bold flower clusters. The most flowers we ever saw of this upon a single plant were obtained by letting the growth run wild along the top of a wall.

ROSES MILDEWEED (Idem).—Encourage new strong growths by giving liquid manure to the roots plentifully and scatter flowers of sulphur upon the affected foliage, renewing it again and again if washed off by rain before a cure is effected. The malformation of the flowers is, we think, an indication of debility. Well shorten and thin the wood at the time of pruning, and apply a heavy dressing of rich manure to the soil as soon as possible.

MATRING GLOXINIAS (A. A. M.).—Place the plants on the shelf of a cool stove or warm greenhouse, and water them just sufficiently to prevent the foliage flagging. The leaves will gradually decay, when the pots may be placed in any dark place having a temperature of about 45°. The plants that are now showing flowers must be watered regularly. They should be grown in a house where the minimum temperature is not below 60°. When they have ceased flowering gradually reduce the water supply and mature the combs as above described.

FERNS IN ROOMS (Constant Reader).—Plants of Maidenhair Ferns will continue fresh for a considerable time in the window of a living-room, especially if the plants are shaded from the sun and are copiously watered. They will be further refreshed by placing them outdoors during an occasional gentle shower. If no rain falls sprinkle them once a week through the rose of a watering pot, so as to keep the fronds free from dust. A window having a north aspect would be a suitable position for the plants. The soil must never be dry.

GRAPES CRACKING (W. Dinsdale).—The cause of your Grapes cracking is an undue quantity of water at the roots after they are colouring or approaching ripeness. Never let your Vine roots suffer by want of water while the berries are swelling, and when they are fully grown keep the border rather dry till the fruit is cut. Let there be no mistake, however, about the watering, but when it is done always let it be thorough. If you cannot give and withhold water at will, then cut down your Muscat Champion and replace it with a Black Hamburg.

CUTTING AND PRESERVING EVERLASTING FLOWERS (F. R. D., Cardiff).—Cut off the flowers when they are not more than half open, tie them up in small bunches, and suspend upon a line in a cool dry shed, and when thoroughly dry keep them in a box or drawer to preserve them from dust, and see that they do not suffer from damp. Xeranthemums are best dried in a dark closet, and afterwards kept from the light till required for use, as they are apt to lose colour. The same precaution may be adopted in drying your Helichrysms and Rhodanthes should you experience any difficulty in fixing the colours.

FUCHSIA FLOWER TUBE SPLIT (Ecce).—Splitting of the tubes usually arises from the atmosphere being too moist or from moisture coming in contact with the flower, and often follows a period of very bright weather, and as a rule is confined to the white-spalled varieties, especially those of robust growth. There is no remedy but more uniformity of temperature and atmospheric moisture.

STORING VEGETABLE MARROWS (F. J. I.).—They should be cut as soon as the rind becomes hard and yellow. Choose a dry day for collecting them, and store them away in any dry but not very warm place.

LIQUID MANURE FOR ROSES (E. B.).—You may use guano at the rate of 1 lb. to twenty gallons of water. Soot also makes a good application at the

rate of a peck to thirty gallons of water; but liquid manures, good as they are, do not compensate for efficient manurings and surface dressings of rich material. These, with thorough waterings in dry weather, produce good Roses and good foliage.

DENNSTEDTIA DAVALLIODES YOUNGII (R.B.).—You do not state the nature of the particulars required. Perhaps the following extract from Veitch's catalogue, page 22, 1877, will afford you the desired information:—"For this splendid Fern we are indebted to the kindness of J.R. Young, Esq., of Sydney, N.S.W., with whose name it is associated. It is a native of the New Hebrides, of very robust habit and vigorous growth. The rhizome is creeping; the fronds are of noble proportions, attaining a length of 10 feet and upwards, and have stout erect or sub-erect stipes, quite smooth, rounded on one side, and flattened on the opposite or upper side with a furrow running along the entire length. The leafy portion of the frond is arching, bi- and tripinnate, broadly lanceolate, and acuminate. The pinnae are sessile or subsessile, spreading. The rachides furrowed on the upper side like the stipe. The pinnules are finely cut and of a light cheerful green. The aspect of the whole frond is very airy and graceful. It is a grand Fern for a warm conservatory. For a central subject in grouping, where bold and spreading foliage is required, it will be found a great acquisition to our decorative resources, and as an exhibition Fern it will be invaluable."

BOILER FOR HEATING (W. W. E.).—We cannot advise you. Consult some practical gardeners in your neighbourhood or some large nurserymen.

OYSTERS (South Hants).—We have no knowledge of the Acts.

NAMES OF FRUIT (R. T.).—Calebasse Grosse. Let us know what soil it grows on, and where, and we will endeavour to suggest a cause for the fungoid attack. (W. Allingham).—Duchess of Oldenburg.

NAMES OF PLANTS (James Shearer).—1, *Empetrum nigrum*; 2, *Achillea Millefolium*; 3, ditto; 4, *Equisetum arvense*; 5, *Caulis Anthriscus*; 6, *Galium aparine*. (G. O. S.).—1, *Saponaria officinalis*; 2, *Lobelia sp.*; 3, *Melilotus leucantha*; 4, *Phygelius capensis*. (Type).—*Abutilon Darwinii tessellatum*. The Begonia is, we think, *B. nitida*, but it is difficult to determine from a single pip. (W. R.).—We cannot identify from leaves only. (Rev. Dr. P. H.).—We think it is *Cordylina indivisa*. (J. Bale).—1, *Pteris monstrosa*; 2, *P. cretica*, var. *albo-lineata*; 3, *P. cretica*; 4, *Asplenium fecundum*; 5, *Adiantum pubescens*; 6, *Aspidium falcatum*; 7, *Adiantum cuneatum*.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

THE CULTIVATION OF RYE.

THIS has always been a crop of importance not only in this country but abroad. In many continental states it is almost the only crop grown. In parts of Russia, Hungary, and other countries, and in some of these districts abroad, it enters largely into consumption as food for the poorer sort of people, but it makes coarse dark flour, and is deficient in nutritious properties as compared with that of wheat. It is, however, sometimes in this country made into meal with barley, &c., where the price of the grain makes it profitable in admixture; but since we have had such large importations of Indian corn it is not often that the price will enable it to compete with Indian corn as a feeding material for cattle, pigs, &c. At present rye is chiefly used for sowing to produce an early fodder crop; and upon the large stock farms, where numerous flocks of sheep are maintained, it is of the utmost consequence to provide a good supply of early food in the spring, and particularly in those seasons where there is a partial or serious failure of the root crops. As soon as this failure can be ascertained, which is usually soon after harvest, it is well to look forward and provide for scarcity in the spring by sowing a good breadth of rye to fold off with sheep. It not only provides for them in the spring, but the land after rye is fed off is left in the best state for the growth of roots to follow, our own experience of this matter being that Swedes and common turnips are both more sure to take and certain to plant regularly after the rye crop than after a long winter fallow. When fed by sheep eating cake, &c., the land will not require any further manuring for the root crop, especially if it is a kind soil suitable for the growth of roots. It is advisable at sowing time to ascertain as near as possible the acreage required, and to sow no more than can be consumed within a given time. If it is required for soiling horses and cattle it will only be in season for about fourteen or sixteen days before the trifolium will be ready for feeding; but when the rye is required for hurdling off for sheep it can be commenced ten or twelve days earlier than for cutting up to feed animals at the stalls.

Upon the home farm the growth of rye will often have to be considered in quite another way now straw is so dear. Rye may be sown unusually early in the autumn and receive a liberal dressing of guano, say 2 cwt. per acre at the time of sowing, or a

dressing of 1½ cwt. of nitrate of soda in February or March, so that not only the heaviest but the earliest crop may be obtained. The produce, instead of being used as food for stock, may be reserved for the sake of the straw, and may remain until it comes into ear. This it will do in ordinary seasons on kind land under the before-named treatment about the first week in May. It may then be cut and tied into sheaves and set up on one-third of the land, when the other two-thirds may be cultivated and sown with mangold, carrots, Swedes, &c., the rest of the land being finished off when the sheaved rye has been carted and stored away for use as straw only. It may, however, be carted loose somewhat earlier and partially dried in order to make hay of, like the Americans do with wild oats, and in this way it makes capital fodder if not too much heated in stack.

Rye is usually grown upon poor sandy or gravelly land, and it pays very well to harvest the crop, as there is always a demand for it for sowing; but it should be drilled and hoed if the land is subject to weeds, because it does not meet with a ready sale if the sample contains the seeds of weeds. It may, however, be grown upon the better sorts of land, when it will pay well as a cereal crop, especially if the object is to obtain a crop of stubble turnips after the rye is harvested, for it not only comes ripe a fortnight before the wheat crop, but on good land it will yield a large produce, the value of the grain being generally higher in price than barley for grinding purposes. The preparation of the land is of the greatest consequence, because the succeeding crop being of necessity put in immediately after the rye is cut, it is therefore essential that the land should be perfectly free from couch grass at seed time. It often happens that there are only a few bunches of grass to be seen, which should be forked out before ploughing, as it saves the expense of more ploughing, harrowing, rolling, &c., and also saves time, for it is very important that rye should be sown early; and as it generally follows a wheat crop it may then be put in immediately the land is cleared of wheat. The quantity of seed required is from three to four bushels per acre when the crop is intended for early cattle food; but from two to three bushels is quite enough when the rye is to remain and harvest the grain if the land is in good heart and condition. It is also very desirable that the seed sample should be clean and free from the seeds of weeds, which is not always the case, for generally speaking no cereal crop is taken less pains with by the farmers than rye. Although rye will succeed well on very poor soil if properly tilled and manured for, still it is best sown where the climate is dry and warm, and is therefore not often grown in cold, late, and exposed districts, because oats would answer better and produce a more valuable crop in backward situations and high altitudes. If grown under such circumstances for feeding purposes rye would come too late, as the chief value of the crop depends upon its adaptation for early feeding.

There are two sorts of rye—the common or ordinary sort, which is usually met with in the market, and the Giant or St. John's-day rye as it was called when it was first introduced upwards of thirty years ago. The common sort is a small and thin grain, whereas the Giant rye is a much longer and stronger grain, being stouter in sample and particularly distinguished by a roundness or plumpness on the back of the grain. The Giant rye is also stronger and earlier in growth, with longer and stouter straw, but it is not considered so hardy as the common sort, and therefore not so well suited for poor land and exposed situations. It is, however, worth notice on account of its productive qualities, and will yield a heavier bulk of fodder to cut up for cattle at the earliest period; it should, however, be sown earlier than ordinary rye to obtain the full advantage of the sort. The grain, being larger than common, will necessitate a full allowance of seed; and in order to prevent the lodging and twisting of such a bulky produce it will be desirable, when the crop is intended to be harvested for the grain, that it should be drilled at 12 inches apart in the rows. It will stand up much better, and be more likely to yield a full crop of the most valuable grain and give a full crop of long reedy straw, so valuable at the present time for various purposes either for use

or sale. This sort of rye, when drilled at the wide distance, offers a capital opportunity for being seeded in the months of February or March with broad clover. The best plan of so doing is to sow the clover seed and hand-hoe or horse-hoe between the rye, which will effectually bury the seed and prevent the necessity of harrowing or rolling; and this is important with a crop like rye, which makes such an early leafy plant in the spring. The object of seeding with broad clover is a valuable one, and similar to that which we have often carried out with early white oats. By reaping the corn above the clover as soon as the corn is carted away the clover in ordinary seasons will make quick growth, so much so that in many seasons we have cut up for foddering a heavy produce down to the first week in November without injury to the clover plant in the following summer.

WORK ON THE HOME FARM.

Horse Labour will still be employed in carting the corn and pulse crops to the stack or barn. At intervals, however, other work must be found for them, and this will depend very much upon the style or system of farming adopted. If the ordinary four-course rotation of cropping is pursued it will be wise, seeing that stubble turnips will be seldom sown, to go on with the autumn tillage of corn stubbles upon land coming in for root crops next season. This will be necessary upon the mixed soils, which are often more or less infested with couch grass; but on many of the chalk-hill farms in various counties, and also upon some of the light-land farms not given to couch, the horses will be employed in laying out farmyard dung upon the lea ground intended for wheat. It is, however, sometimes imagined that laying out and spreading dung thus early that it loses some of its properties, but on chemical analysis this is not found to be the case, and it then becomes a question as to whether it would be best to proceed and plough in the dung without further delay. This must, however, in a busy time like harvest, be a question of opportunity, for such-like work in fine weather must not be allowed to interfere with stacking the corn crops.

The odd horse or horses will still be required in horse-hoeing the late turnips and carting of green fodder daily for the horses, cattle, and pigs; and in case proper foresight has been used the green fodder of the home farm will be available for a long time yet. Although the second growth of clover will be rather old and dry, the other crops provided, such as late vetches and oats mixed, spring-sown trifolium, and the third cutting of lucerne, will each in turn be found in good condition for soiling cattle and horses at the stalls.

Hand Labour will still be employed principally in harvest work, for although in the early districts the wheat will have been stacked and the ricks thatched, the barley will still require attention, and be cut and tied into sheaves or carted as loose corn according to the condition and growth of the straw. We have at the present time barley so laid and twisted and so broken by storms that it would be difficult, and probably impossible, to cut with the machine and tie into sheaves. We have, therefore, no alternative but to cut it with the scythe or fagging hook, whichever may be safest, to avoid cutting off the ears of corn, and harvest it as loose corn. Much of the oat crop is found to be in some districts in the same laid and twisted condition, and must be treated accordingly as circumstances may require. At any rate, it seems advisable in such a stormy harvest as we have hitherto experienced to put up ricks in the fields where the corn has grown, in order that a larger extent of land may be cleared of the crop in the shortest time and secured in the best condition. This is particularly the case with barley, for it cannot take much rain after being cut without injury to the grain as malting barley.

Upon the home farm it will also be necessary to attend to the pasture and park lands, and, if it has not already been done, the grass and weeds which are often found in patches after the cattle have been feeding during the summer should now be cut over with the scythe, and the grass and weeds immediately raked up and carried away in order to prevent injury to cattle by their eating the heads of grass seed which may happen to be ergoted. There are various weeds which if not carried away as fast as cut will leave the seeds. We have especially noticed in different dry pastures the yellow-flowered ragwort, which is the worst weed we know of. It sheds its seed in a most extraordinary manner, and more than any other weed will be well described by the old lines, "That one year's seeding makes seven years' weeding." It is also necessary in some meadows, particularly those which require to be drained, that the rushes will now be strong and should be cut down and carried away for littering of cattle and pigs. This will weaken the rushes and give a better chance for the after-grass to grow, and a better opportunity for the cattle to feed upon it.

The shepherd will now be required to give particular attention to the sheep which have been recently purchased, as they often fall lame from foot rot in consequence of driving to and from the sheep fairs, and in treating them it is necessary to attend to them every day and dress the feet as fast as the disease appears, and after applying the usual remedies the animals should be allowed

to stand for several hours by themselves in a pen littered with clean dry straw.

CHICKENS DYING.

IN answer to "TWELVE-YEARS READER," we rear many hundreds of chickens. We do not lose two per cent. For four days they are under the hen. They are then put out on the grass, the hen being under a rip. The birds are fed on groats, ground oats, bread and milk, chopped egg, and boiled greaves. They always do well. Failure is the exception, at intervals of some years. This, of course, assumes they are not provided with or tempted with food sufficiently poisonous to cause death. Young chickens are not to be benefited by nostrums. It is very nonsense to suppose sufficient knowledge in any man to prescribe for a chicken. You have made a connecting link between two centuries. In the last century the administration of a peppercorn was held to be a sovereign remedy. The sacrifice of a cock to Esculapius was a panacea, and in our own time we have heard a "wise woman" say, that for a dislocation the white of a new-laid egg laid on with the wing feather of a hen was a remedy.

Hatch your eggs under hens. When hatched keep them a few days in confinement, then put the hen under her rip on the grass. Feed the young on bread and milk, soaked greaves, boiled egg chopped fine, and bruised corn. They will want neither help nor medicine. Observe common-sense rules. If the previous meal is not eaten give no more. If, in spite of this feeding, the chickens still droop, give them stale bread steeped in strong ale. The last we believe would have saved all your chickens.

DURHAM COUNTY SHOW OF POULTRY, &c.

THE annual Show of the Durham Agricultural Association was held at South Shields on the 21st and 22nd inst. An excellent marquee was provided for the poultry and Pigeons, and this proved a great boon.

Poultry was about a repetition of the Ryhope Show, but in consequence of the birds being under canvas a few of the awards were reversed.

Pigeons were a capital entry, almost all classes being well filled, although the Carriers were to some extent an exception, and Short-faced Tumblers had no entry. Tumblers, Long-faced, were very good. Pouters were a grand class, every bird deserving a prize, and two extra prizes were awarded. The first, second, and third were Blues, and extra second and third Yellow and Red. Dragons were good in both classes, and all the six prizes were carried off by the Mansfield loft. In Nuns many were severely trimmed, and in consequence left out of the list. Owls were a very good class; first and second Silver English, and third White African. Turbits were an uncommonly good class, almost every bird noticed, and the prizes awarded to Blues and Reds. Barbs were poor, and Jacobins a moderate lot, as also the Fantails. In Magpies were three of the best Reds that have been seen in the fancy. The Selling classes were well up in quality, and most of the birds quickly changed hands.

There were three classes of *Rabbits*, the best being the Lop-ears, and one of *Cats*.

POULTRY.—COCHIN-CHINA.—1 and 2, G. H. Proctor. BRAHMA POOTRAS.—Dark.—1 and 2, Dr. J. Macrae. Light.—1, H. W. & H. King. 2, Wilson and Gowland. 3, S. Lucas. SPANISH.—1, R. S. Allen. 2 and 3, T. Newlands. POLANDS.—1 and 3, J. Rawnsley. 2, R. Sewell. GAME.—*Old-fashioned*.—Cock.—1, T. Brown. 2 and 3, M. Borradale. *Black Red*.—1, Wilson & Gowland. 2, T. Dodd. *Brown Red*.—1, G. Holmes. 2, R. Miller. 3, C. Venables. *Any other variety*.—1, G. Matthews. 2, G. Holmes. 3, R. Usher. HAMBURGS.—*Golden-spangled*.—1, R. Keenleyside. 2, J. Rawnsley. 3, G. Holmes. *Silver-spangled*.—1 and 2, J. Rawnsley. 3, G. Boon. *Gold and Silver-pencilled*.—1, T. P. Carver. 2 and 3, J. Rawnsley. SELLING CLASS.—1, G. Boon. 2, G. Ponder. 3, T. Newlands, jun. MALAYS.—1 and 2, R. Hawkins. 3, T. Newlands, jun. FRENCH.—1, Dr. J. Macrae. 2 and 3, J. Newlands. DUCKS.—*Rouen*.—1, G. Ponder. *Any other variety*.—1, F. E. Gibson. 2, Wilson & Gowland. 3, J. Henderson. BANTAMS.—*Black Red*.—1 and 2, J. A. Nelson. 3, M. Borradale. *Brown Red*.—1 and 2, R. Miller. 3, W. N. Hudson. *Any other variety*.—1, J. Durning. 2, J. A. Nelson. 3, J. Rawnsley.

PIGEONS.—CARRIERS.—1 and 2, J. Dye. 3, T. Gallon. TUMBLERS.—1, T. Gallon. 2, R. Woods. 3, P. Wilson. POUTERS.—1 and 2, J. Guthrie. Extra 2, J. E. Crofts. 3 and Extra 3, J. Dye. DRAGONS.—*Blue or Silver*.—1, 2, and 3, R. Woods. *Any other colour*.—1, W. C. Moody. 1, 2, and 3, R. Woods. NUNS.—1 and 2, R. Woods. 3, R. S. Mace. OWLS.—1 and 2, J. Dye. 3, R. Woods. TURBITS.—1 and 2, J. Dye. 3, T. Gallon. BARBS.—1 and 2, E. H. Stobbs. 3, W. F. Clark. JACOBINS.—2 and 3, W. Dale. 3, J. E. Crofts. FANTAILS.—1, J. F. Lovelidge. 2, T. Gallon. 3, E. H. Stobbs. MAGPIES.—1 and 3, J. E. Crofts. 2, R. Woods. SWALLOWS, PRIESTS, OR TRUMPETERS.—1, W. Chappelow. 2, G. Henderson, P. Wilson. ANTWERPS.—*Long-faced*.—1 and 2, J. Rawnsley. *Short-faced*.—1, J. Stewart. 2, E. H. Stobbs. 3, W. Dale. **ANY OTHER VARIETY.**—1, R. Woods. 2, P. Wilson. 3, J. Brown, jun. SELLING CLASS.—*Price not to exceed 30s.*—Pair.—1, W. Chappelow. 2, P. Wilson. 3, W. C. Moody. *Price not to exceed 11s.*—Cock or Hen.—1, W. Chappelow. 2, R. Turner. 3, M. Green.

RABBITS.—1, J. Kearton. 2, G. Howe. **ANY OTHER VARIETY.**—1, J. S. Robinson. 2, J. Handlip & Son, T. & E. J. Fell. SELLING CLASS.—1, M. Borradale. 2, J. S. Robinson.

CATS.—1, J. Pallister. 2, Rev. W. K. W. Chafy-Chafy.

JUDGE.—Mr. E. Hutton.

CANARY MANAGEMENT.

It is not of uncommon occurrence that accidents happen to Canaries through the want of a little proper management; for instance, a too hurried mode of catching a bird from a cage or fly,

and also allowing the claws of a bird to grow to such a degree that the bird cannot freely hop from perch to perch or on to the wires of the cage without the danger of its sickle-shaped claws becoming trapped. The consequence is that many a valuable pet songster is brought to a premature death.

Respecting the catching or handling of birds I will quote from a chapter in Mr. Hervieux's old bird treatise. He says, "Canary birds sometimes suffer much for want of a little precaution. Sometimes a Canary bird is put quite out of order by being handled too roughly. You will hear him when he is in your hand make a noise like the snapping of a finger. This cry or noise is followed by some drop of blood coming from his beak, and then you may see the bird as it were stunned and not able to extend his wings. You must put him again immediately into his cage, cover him with some thin transparent cloth, and hang him in some place out of any noise of people that he may not be disturbed, set his meat and drink on the bottom of his cage, taking away the perches, and give him good food; if he survives twenty-four hours there is hope that he will not dye [die] of it, but will only be gaunt and thin. This generally only happens to Canary birds that are wild and unruly, being commonly those that have been reared by both cock and hen. To prevent this accident you must use precaution, drawing near the cage out of which you would take the bird by degrees; you must give him notice at a distance either with your mouth or hand, for if he be taken by surprise, though he does not fall into the danger I have spoken of, it often happens that when you miss taking him at first he flutters about the cage till he breaks his head or wings. When you would take a Canary bird that is in a volery [a fly] you may use a sort of little net made purposely to catch them. Some make a little sort of trap cage, which they set into the volery with some sweet eatables in it, as simnels or biscuits; the Canary birds soon run into it, one after another, and sometimes several of them together. Those that are taken in it you put into a cage and return the trap to the volery till such time as the bird you would catch is in it, and then you return all the others you have no occasion for into the volery."

The hand net and trap cage are good ways of catching birds from a large fly or from a room, but in place of the spring "trap cage," which Mr. Hervieux evidently intended for the purpose, I would suggest the use of a cage with a swing door (one of which kind I have adopted), so situated upon the floor of the fly or room that with a length of thread attached the swing door can be pulled to when many birds have hopped therein. I prefer this method to a spring trap, which might in its action break a bird's leg.

Mr. Hervieux certainly had an eye to the danger of a spring trap, for further on in the same chapter he says, "I find this a very convenient way of taking Canary birds out of a volery, and must own this method does not scare them, and consequently they are out of danger of those accidents above mentioned, which happen when taken or caught by hand; but I am sensible of an accident which may happen, and therefore discourages me from practising this way, and that is that as the trap is falling to shut in the birds others may be hopping upon and about the trap door, which falling in the meantime quick and before the birds that are on the edge can be gone they are in great danger of having their claws broken, and sometimes the birds killed; therefore I leave the curious to make choice of what they shall think most for their convenience and being least hazardous for killing their Canaries when they are to take any out of their voleries." The old work in many respects is not only really practical, but somewhat quaint in its style.

Overgrown claws or beaks may be kept down by carefully operating upon the same with a sharp penknife, but not so to pare away the horny substance until there is a danger of blood coming forth. The termination of the thin vein of blood running along each claw may easily be seen by holding up the claws before a strong light, and it is mostly at the extreme point of the beak that the horn will require to be cut away. Respecting the latter operation not one in twenty birds will require its beak reducing, still I have had several instances where the upper mandible has overlapped the end of the lower one by more than the eighth of an inch, and thus hindering the birds from picking up their seeds. The use of plenty of grit sand will tend to keep down the growth of claws, and a piece of the cuttle fish suspended inside the cage will keep down the beak. When handling a bird do so with some care and confidence with the thumb of your left hand over the neck, and so holding the bird that it has not too much play, for I have known many instances of blood vessels breaking when the birds have been held too loose.—GEO. J. BARNESBY.

VARIETIES.

ALTHOUGH a month has elapsed since harvest commenced only a comparatively few fields are cleared of the crops. For miles the grain is still exposed, the great bulk being in stook, but much has perforce remained on the ground untied on account of the heavy rains. In some districts the corn is sprouting, and unless bright days recur and continue for a week or ten days much injury will result. Already the quality of the barley has

suffered considerably, the grain being stained, and not in the bright condition coveted by the maltsters. The crops in well-farmed districts are generally heavy, and more straw is produced than has been the case for some years.

— IT is estimated that 5,000,000 sheep, valued at £2,500,000, were destroyed, directly or indirectly, through the lack of pasturage consequent on the drought that has lately prevailed in Australia.

— WE never saw the root crops on the various farms in Lincolnshire and Yorkshire look more promising than at the present time. The heavy and frequent recurring rains that followed the drought of July have caused turnips and mangold wurtzels to grow with great rapidity, and the crops are in most instances not only full but quite cover the ground. Should the winter prove mild the crops in all probability will be too large for the requirements of the stock, especially as the pastures also contain an unusual quantity of green food. Late potatoes are also looking well, but are in extreme danger of being overtaken by the disease, which is certain to be virulent if the rains continue much longer; already some fields are affected more or less seriously.

— THE "Veterinarian" says that not less than ten thousand head of cattle have been attacked by the cattle plague in the province of Smyrna. It also exists in other localities in Turkey, both European and Asiatic, as well as in Russia in the government of Bessarabia, Volhynia and Podolia. In Italy, the disease prevails in the province of Naples, but the whole of the Austro-Hungarian Empire is free with the exception of the Cattaro district.

— A TRANSATLANTIC contemporary says a farm sixty miles long and ten wide in one tract, mostly fenced, is that of Miller and Lux, cattle monopolists of California. They have 80,000 head of stock, own 700,000 acres of choice land, and are rated as worth \$15,000,000.

— ACCORDING to the recently published agricultural returns for Ireland the number of holdings in the Sister Kingdom is 600,000. The total acreage under crops is 5,203,000 odd, showing a decrease of 62,196; the decrease in cereals was 31,174; in green crops, 87,249. The number of acres under grass is 10,124,745; fallow, 16,971; woods and plantations, 330,816. There is an increase in live stock—that is, in horses and mules, 9953; sheep, 106,721; goats, 13,324; and a decrease in cattle of 12,847, and in pigs of 199,372. The number of scutching mills in Ulster is 1162; Leinster 13, Munster 20, and Connaught 17.

BAR-AND-FRAME HIVES.

UNDER the above heading your correspondent "HARDY OF THE HILLS" gives an interesting account of his visit to his Dunoon friend, and I quite agree with him that pure honeycomb from the super is the best if not the only form it should be put on the table. He must, however, bear in mind that the bees store the various honeys methodically and distinct. His recommendation to sling the contents of the black broodcombs (best given to the bees for their own support) to fill supers is a very questionable procedure. Besides the double labour, waste and loss of time to the bee, such mixed blend could never compare with pure virgin honeycomb collected and stored naturally.

That the first-cross Italian is more irascible than the black or yet pure Italian is a fact familiar, and cannot be gainsayed by any with the requisite experience, which, did your correspondent possess, would readily agree with me that such first-cross Italians store more rapidly and defend it better than the pure bees of either variety.

It is rather fallacious to estimate the value of a district from a single visit, and the comparative merits of bees and systems of management are obviously best obtained by their being wrought side by side in the same district.

Every intelligent bee-master ought to have his bees thoroughly in command by the contents of his hives being moveable. It does not necessarily follow he should be continually pottering and smoking amongst them. During the honey flow the less disturbed they are the better, save giving empty and removing completed supers.

Cottagers of our district working on the swarming system complain bitterly this season of the loss of time watching their bees, and after all the trouble and expense of feeding find that their swarms fly off to people the dead skeps and enrich their careless neighbours who let theirs perish from want. A labouring man when once taught can well appreciate improved management. I remember some years ago one at a job here telling me of an immense skep he had meant to "smeek." To save them from the brimstone pit, for a consideration he consented to let me have the bees provided I would show him how they could be driven. The skep turned out to be the largest straw I ever saw. Comb after comb was cut out, and the loaded tops he carried in to his wife for to run, and on my asking him what he meant to do with the long stretches of brood and empty combs, he said the children would have them to play with and then would be thrown on the

dunghill for the fowls to peck at. He evidently thought me very foolish when I offered him a like sum for the combs as the bees, but rather changed his mind when he saw on fetching them the ease with which they were cut up and fitted into the frames of a Stewarton set of boxes, and his bees introduced, a new and better colony arising phoenix-like from the ruins of his old. It so interested and delighted him that I could not resist presenting him with an improved hive. This he peopled the following season, and he afterwards told me the couple of supers it yielded realised him between £3 and £4, with the stock left over to boot, and that he was for ever done with the old skep plan.—A RENFREWSHIRE BEE-KEEPER.

APIARIAN JOTTINGS.

RETURNING home after a six-weeks absence in Jersey and Brittany I was eager to see what my bees had done, and full of hopes from all I heard and saw elsewhere that a really good honey season might be chronicled at last. Nor on the whole have I been disappointed, for although doubtless had my apiary been planted elsewhere, or had I been at home (which I never am during the greater part of July and August), a greater success might have befallen me, still I have no reason to complain. Of honey certainly there is more than enough for home consumption, and for the surplus I must seek a market.

At page 20 of the current volume of the Journal will be found a statement of the condition of my apiary when I left home. Every possible super had been given to every hive, and everything to tempt the bees up into them; still I found that "the very general complaint this year that bees would swarm" continued to be verified in my apiary, in that "the one strong hive" then recovering from the effects of the tedious spring, which had as yet not swarmed, had sent out a fine colony on the 3rd of July, two days after I left home. The loss of the swarm aggravated the misfortune, as there was no one at home at the time to follow it or hive it. I left the bees in first-rate condition, working in two large supers, filling both with their numbers and every cell below as cram full of brood as it could be. It was also one of my largest hives not bar-framed. In spite, however, of this loss I found one of the supers beautifully filled with honeycomb, sealed throughout, and weighing over 30 lbs. net. The bees had also begun operations in the other super, and laid up a sufficient store in the hive below for winter. I have no means of knowing certainly whether they sent out a second swarm, but it is at least probable they did so.

One of the other "weaker hives" alluded to at page 20 had filled up its hive with comb and sealed up a large portion of it. I took off it also a nice super containing about 17 lbs. of pure honeycomb, and some sealed dronecomb below with over 5 lbs. of honey in it. The other had contented itself with filling up the hive and working a little in a super. They ought to have done more, as the hive was overstocked with bees; but I suppose, owing to the too small passages communicating with the super, they preferred to hang about outside the hive in masses rather than work diligently in it. This hive contained one of my last autumn's best imported Italian queens, so that I have had no advantage from it as yet. It does not appear to have swarmed, and yet it is one of the few hives in my apiary which has retained its drones August 17th.

Since writing the above, it having occurred to me that its drones might be utilised for the production of a race of pure Italian queens, I resolved to remove the queen and give her to another hive, while compelling the bees to rear some queens from her brood; but after driving and failing to find any eggs or brood in open cells it became evident that the old queen must have led off a swarm at no very distant period, for there were still some hundreds of cells occupied by brood sealed in, and several royal cells appeared to have been tenanted quite recently. The queens also refused to be caught, taking wing immediately and flying home straight as a young queen would, entering a temporary hive put there to catch and occupy the attention of homeward stragglers. It is matter of regret that my imported queen was thus lost, having evidently gone off with a swarm; but this young queen ought to be very pure, as there have been very few impure drones in my apiary for a long time. It was also a good opportunity for breaking up a very old hive and transferring the bees to a bar-framed hive, which accordingly we did, intending to feed them up this autumn with sugar.

The same day (17th) I also examined the large bar-framed hive, which had given me two swarms, as recorded, on the 13th and 17th of June. I had cut away a quantity of royal cells having two or three, and a young queen was seen by me at the time perambulating the combs. For all that I found no queen in the hive, only some few hundreds of old bees, and absolutely no honey at all. This hive accordingly was immediately broken up, and after its bar frames had been re-arranged and comb-deviations corrected it was given to the bees, dealt with as described in the foregoing paragraph.

I may mention that in dealing with my bees this autumn my plan is to rob them of every possible pound of honey; accordingly this morning the bar-framed hive into which we hived the prime

swarm, described at page 20 as issuing on the 15th of June (pure imported Italian), was taken in hand. It had given me a perfect little super with about 9 lbs. of honeycomb. Every comb was now taken out except four combs in the centre, which contained brood. These combs alone will remain, but as they run pretty true I purpose putting an empty bar-frame with guide comb between each, and encouraging the bees by liberal feeding during the next six weeks to fill up the intervening spaces with fresh worker combs. They will doubtless breed largely this autumn, as there is a very large population, many of them vigorous young bees.

The extracted comb, after removal of honey by slicing the comb, will be adjusted in another bar-framed hive, and the population of another old hive driven into it to be treated in a similar manner.—B. & W.

OUR LETTER BOX.

INSURING LIVE STOCK (B).—We do not know of any society that insures stock against disease or death.

STRAW HIVES (Wm. Burch).—Mr. James Lee of Bagshot sold straw hives at one time, and for aught we know may do so now; but Mr. Samuel Yates, seed merchant, Manchester, has always a good stock of straw hives on hand, and sells hundreds of them annually. We obtain ours from him. We advise you to accept the condemned bees, which are one-third of a mile from your garden, put them in empty hives, and place them beside your hives for a week or two, and then unite them. If you were to unite them at once the strange bees would likely fly back to the old place. Keep them alive by feeding till they forget their old home.

HIVES (W. H. Hudson).—Write to Messrs. Neighbour, High Holborn, for the information you need.

A HIVE WITHOUT BEES (A. G.).—Your bees, which clustered outside so much in summer and filled a super 12 lbs. weight, while at the present time your hive has not more than half a pint of bees, probably swarmed in July once or twice without your knowledge. The queen which was hatched in it after the first swarm left might be lost on her marriage tour—a common occurrence, and the queenless bees would gradually dwindle down to their present weakly state. Your hive being without queen and without brood, and with very few bees and little honey, makes us think it has come to its present condition in the way indicated above. The price of the best Scotch straw hives in the Manchester market (Mr. Yates') ranges between 4s. and 6s. each, according to size; and English-made ones 2s. each. We use the Scotch-made hives.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				
	Baromet. at 30 inches Sea Level.	Hygromet- er.		Direction of Wind.	Temp of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass	
1878.										
August.										
We. 21	Inches. 30.045	deg. 59.9	deg. 55.3	N.E.	deg. 61.2	deg. 69.8	deg. 51.2	deg. 103.2	deg. 49.0	In. 4.91
Th. 22	29.974	64.1	57.3	E.S.E.	61.2	71.0	53.2	111.0	48.1	0.457
Fri. 23	29.547	63.7	61.8	S.E.	61.2	68.1	58.3	90.0	57.4	0.382
Sat. 24	29.444	64.3	61.6	N.	61.6	71.1	57.3	116.4	52.2	0.332
Sun. 25	29.589	60.1	58.2	W.	61.0	69.9	54.3	105.8	51.3	0.311
Mo. 26	29.497	63.6	60.6	S.E.	61.0	70.3	51.5	102.6	48.1	0.010
Tu. 27	29.602	62.7	60.7	S.	61.3	72.3	58.4	121.4	54.7	0.173
Means	29.684	62.6	59.4		61.2	70.4	54.9	107.2	51.5	1.863

REMARKS.

- 21st.—Fine day, but not very bright, and rather cool; very slight shower in evening.
22nd.—A rather dull day; a little sun in the morning, overcast in the afternoon, wet in the evening, and heavy rain at night.
23rd.—Overcast in morning, rain at 11.30, thunder at noon, 0.31 of rain fell between 0.15 and 0.35 P.M., when the sun began to shine, but the thunder continued almost incessant till 1.30 P.M.; heavy showers with blue sky at intervals and distant thunder all the afternoon.
24th.—Dull morning, thunderstorm between 11 A.M. and noon; heavy showers at intervals all day.
25th.—Fine pleasant morning; heavy clouds at 1.30 P.M., making it rather dark, heavy rain from 2.5 to 2.40 P.M., showery during afternoon; fine evening.
26th.—A dull, close, gloomy day; a little sunshine in the morning; fine
27th.—Fine in early morning, but it clouded over and became dull with a good deal of heavy rain; early in the afternoon it cleared up, and the rest of the day was fine and bright.

The weather during the week was unsettled and showery, the amount of rain being considerable. Temperature rather below last week, sun temperature very much below. Barometer low.—G. J. SEMONS.

COVENT GARDEN MARKET.—AUGUST 28.

OUR market has been heavy, and clearances have been hardly effected, all classes of goods being low. Kent Cobs and Filberts are selling freely.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½	sieve	2	0	to 4	0			
Apricots.....	dozen	0	10	0					
Cherries.....	½	lb	0	0	0				
Chestnuts.....	bushel	0	0	0					
Currants.....	½	sieve	0	0	0				
Black.....	dozen	1	0	0					
Figs.....	dozen	1	0	0					
Filberts.....	½	lb	0	6	0				
Cobs.....	½	lb	0	6	0				
Gooseberries..	quart	0	0	0					
Grapes, house	½	lb	0	6	0				
Lemons.....	£	100	6	0	10	0			
Melons.....	each	2	0	to 6	0				
Nectarines...	dozen	1	0	8	0				
Oranges.....	£	100	8	0	16	0			
Peaches.....	dozen	1	0	8	0				
Pears, kitchen.	dozen	0	0	0					
dessert.....	dozen	0	0	0					
Pine Apples...	½	lb	0	3	0				
Piums.....	dozen	1	0	0					
Raspberries...	½	sieve	2	6	5	0			
Strawberries..	½	lb	0	6	1	0			
Walnuts.....	bushel	5	0	8	0				
ditto.....	£	100	0	0	0				

WEEKLY CALENDAR.

		SEPTEMBER 5—11, 1878.		Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
Day of Month	Day of Week			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
5	TH	Dundee Show opens.		69.8	47.3	58.6	5 20	6 37	4 4	11 5	8	1 24	248
6	F			69.5	46.0	57.7	5 22	6 34	4 40	morn.	9	1 44	249
7	S	Dundee Show closes.		69.6	47.1	58.4	5 24	6 32	5 6	0 19	10	2 4	250
8	SUN	12 SUNDAY AFTER TRINITY.		68.9	47.3	58.1	5 25	6 30	6 25	1 35	11	2 25	251
9	M			68.8	48.0	58.4	5 27	6 28	5 40	2 49	12	2 45	252
10	TU	Coventry Show.		69.4	45.5	57.5	5 28	6 25	5 52	4 1	13	3 6	253
11	W	Edinburgh Show.		68.4	46.8	57.6	5 30	6 23	6 4	5 12	●	3 37	254

From observations taken near London during forty-three years, the average day temperature of the week is 69.2°; and its night temperature 46.8°.

ROSES IN AUTUMN.

SURELY at no time of the year can the queen of flowers be more appreciated than at the present. It is true that the lordly Dahlia holds high festival in our gardens, that she appears to challenge attention by her splendid bust and form, and to ask, "Can any fault be found with me? My teeth are even, my complexion is slightly dull, is even in colour, and I am always free from spots. Look at me all round and say, Am I not lovely?" We own freely her beauty of form, but we think she is a little stiff—too much like a milliner's block in a shop window, and then indeed her colours are dull. The dews may come and go, the autumn rain may descend upon her choicest blooms, and the sun may come out and try and light up her colour, but in vain. No dewy shades of colour, no softness, no sheen as of a satin, is there. And as to fragrance, well, the less said about this the better. In fact we shall be far more complimentary to the Dahlia if we say she has no scent, than to speak of her fragrance.

Then there is the splendid *Gladiolus*. No words can aptly and fully describe the varied beauties of this glorious flower, but it again has the same essential lacking to make it perfect—fragrance. Asters, with their somewhat ragged blooms, and Stocks make our parterres gay, but still do not compensate us for the lack of fragrance in the flowers of autumn.

Then there is the lovely *Lilium*, the queen of autumn flowers; here we have indeed all we want in form, and colour, and fragrance, but the very sweetness of these beauties is almost too much for us. It is a cloying perfume partaking too much of the nature of the *Narcissus*; and once more we turn to the Rose to give us all we want. And here again as much if not more, as in summer, the glorious Rose repays us tenfold for all the love and labour we lavish upon her. She may not bloom so freely, it is true, but that makes her flowers all the more precious in our eyes.

The giant "Hercules" can no longer walk through his lines and cut twenty or thirty fine blooms of *Marquise de Castellane* at a time as he does in June, but he can wander about and find here and there a bloom which will bring back to his mind the past glories of his summer victory, and stir up grateful feelings in his heart.

The blooms may not be so large, it is true, but they are quite large enough for what we want now. A few blooms for the autumn shows and the rest for the decoration of our houses, this is all we want, and this in August and September we can have. As to fragrance, I assert without fear that the bouquet of Roses in autumn, when the heavy dews descend at night and morning, and the frequent rain refreshes the hot earth, is much more sweet and delicious than in summer.

I have been in the lucky and privileged position of late to visit some of the largest nurseries where the Rose is cultivated, and have made it my special object to take notes on autumn Roses. The result of these notes I hope to

convey to the readers of the Journal; and if there is any difference of opinion as to the judgment I have formed I can only say that I have taken notes from four gardens of the greatest rosarians in the country, and there is an old saying which surely may be considered true in this instance, that seeing is believing.

The first nursery that I visited was that of Messrs. Thomas Rivers & Son of Sawbridgeworth. This old firm, once the very foremost in the Rose tournament, and almost the *fons et origo* of the Rose Show, now no longer exhibit; they are content to rest upon their well-won laurels and leave the course to other and younger firms. A most extensive nursery, or rather nurseries, is that at Sawbridgeworth, and one that would afford material for many articles in the Journal were I competent to write on fruit and other choice gifts of Nature; for there are but few flowers which Mr. Rivers does not cultivate largely.

It was on a very stormy morning in the last week in August that I paid a visit to Sawbridgeworth, but I could not defer my visit till the weather improved, as my stay in London was very limited. I cannot hope to do justice to any department of that great nursery, but can only give a few impressions which the place made upon my mind.

I went very carefully through the Roses with a view to discovering the best autumn bloomers, but I did not find so many blooms as I expected. The late stormy weather no doubt accounts for this, but the plants seemed to be ripening very fast. The leaves were disappearing, and the plants appeared to be almost ready for removal even at this early date.

The freest bloomers were undoubtedly the Tea Roses. This is a most valuable section for autumn blooms; far more flowers can be cut from Teas than from four or five times the number of Hybrid Perpetuals. Adam is a very free bloomer in the autumn, and Céline Forestier also. *Souvenir d'un Ami* and *Marie Van Houtte* also are good bloomers at this season. *Triomphe de Rennes* and *Madame Falcot* both come to the front in August and September. I do not remember to have seen any blooms of *Souvenir d'Elise*; but *Madame Willermoz* and *Souvenir d'un Ami* were both well represented. After the Teas and *Noisettes* I place the *Bourbons*. Nearly all the old favourites of our fathers are to be found giving good blooms at this season. *Souvenir de la Malmaison*, *Catherine Guillot*, *Sir Joseph Paxton*, *Queen*, *Baron Gonella*, *Aimée Vibert* were all covered with blooms and doing as well or better than they do in the summer.

Of Hybrid Perpetuals the best I could find was my old favourite *Boule de Nègre*. *Capitaine Christy* ran her very close, however; and *La France*, *Mrs. Rivers*, and the *Baroness* were good stable companions. Of coloured Roses perhaps *Jules Margottin* and *Paul Neyron* were the freest bloomers; but that excellent variety *Sultan of Zanzibar* proved to me that she possessed another virtue hitherto unknown to me—viz., that of a good stayer or autumn bloomer. *Prince Camille de Rohan*, *Duke of Edinburgh*, *Duchesse de Cambacères*, and *Alfred Colomb* were all doing well; while that little gem *Elise Boëlle* held up her tiny head as perky as if she was as big as *Paul Neyron*. *Annie*

Wood, Marquise de Castellane, and Souvenir de Dr. Jamin showed many good blooms.

Now I must try and say a few words about the fruit trees. I was perfectly astounded with what I saw. House after house full of Peaches and Nectarines and Apricots, and above your head Grapes of all kinds. It was a case of Peaches to the right of you, Peaches to the left of you, and Peaches above you. Wherever you looked you saw this delicious fruit. Peaches trained to wires and growing like Grapes; Peaches in toy pots bearing twenty or thirty apiece; standard Peaches planted out and weeping over your heads. I always heard that Mr. Rivers was the father of Roses in this country; but, bearing in mind what he had done for fruit, I think he might adopt a new motto to his coat of arms—"Fons et origo *Mali*."

I saw one house 375 feet long filled with upwards of twenty varieties of Grapes, the grandest and most prolific of which was Madresfield Court. I was shown a corner of the nursery where there were nearly seven hundred seedling Plums, every one different. I saw Apples, Pears, and Plums trained as cordons in the simplest and yet most cunning manner. One device was a most ingenious one. It was a double cordon: the Pears were trained obliquely on one side, and on the other side in the opposite direction, thus taking a double advantage of the sun and winds at the same time.

Every now and then we came to a patch where the Pears had not done equally well. Mr. Rivers accounts for this in what to me is a most novel idea. He thinks that there are waves of frost as there are waves of the sea: that there are currents of cold air which go over the ground in waves, so that one place is frozen, another left cold. If it is not so, how do you account for Pears of the same variety, in the same soil, and treated in exactly the same manner, showing such different results? With regard to the old Rose Gloire de Dijon I omitted to say that Mr. Rivers told me he was the first to see this grand old Rose at Dijon before it was sent out. It was at the nursery of M. Jacotot that he found it.

I was most kindly received and most hospitably entertained by Mr. Rivers; and I can best conclude these somewhat rambling notes and most inadequate description of his really splendid place by saying how much I enjoyed my visit and how grateful I am to him for the kindness which he showed to a—WYLD SAVAGE.

THE POTATO CROP IN ESSEX.

DURING the present season I have grown about twenty varieties of Potatoes, and in recording my experience with them generally shall be well repaid if my remarks may help to induce others to give theirs. The Potato is undoubtedly the most popular vegetable grown, consequently any information, however slight, cannot fail to be interesting to the majority of the readers of this journal. In taking charge of this garden I was informed that the Potatoes usually grown in it were unfit for use, being, in fact, when cooked little better than "lumps of soap;" the greater part of the supply had therefore to be bought. I certainly found the soil in the garden the reverse of a good Potato soil. It was naturally a stiff clayey loam on a cold gravelly clay subsoil: it had not been double-dug for thirty years, and had been literally poisoned with manure, no corrective in the shape of hot lime having been administered. Where such treatment is given (and this is not a solitary instance) it is no wonder that "soapy" Potatoes are obtained. The remedy successfully applied was the often-described process of double-digging (not trenching; that will not do here), which, however, to be explicit I will briefly describe. The top spit and shovellings of the width of the trench are taken out and wheeled to the end of the length, the bottom spit is then broken up, a liberal quantity of manure added, and the next top spit and shovellings are turned completely on to this, &c. No manure was added to the top spit, the only thing needful being to well fork it over to incorporate the "shovellings," which are in fact almost virgin soil, with the rich soil underneath. Shallow planting was resorted to, placing the rows a good distance apart, according to the habit of varieties, and moulding-up pretty heavily. Last year but few complaints were made, this year none, instead of which the quality of the tubers has been highly commended.

My object in growing so many varieties is for the twofold purpose of being able to select the most suitable varieties for growing here and on similar soils, and also for exhibition purposes.

The best variety for forcing I found to be Veitch's Improved

Ashleaf, and in cold frames for succession Mona's Pride. Porter's Excelsior and the American variety Alpha are both well adapted for forcing, but the quality is inferior to the foregoing kidneys. On the early borders Mona's Pride proved the best, being the hardiest, most productive, and of good habit and quality. Veitch's Ashleaf is slightly superior to it in quality, but on the whole is scarcely its equal. The Early Hammersmith is another excellent variety, and will become very popular. The habit is good, and the tubers very shapeable and of good quality. Rivers's Ashleaf does not do well here, although near here on a lighter soil it is remarkably prolific and good.

For a second early Snowflake is a great favourite, and is undoubtedly one of the handsomest and best varieties grown. A variety known as Badsaye's Kidney will be largely grown another season, being good in every respect. In all probability it is grown under another name. I had my stock from Shropshire. Waterloo Kidney produced a good crop of clean shapeable tubers, but the quality is inferior. Early Rose crops heavily, and the tubers are of good shape; the quality, however, renders it unfit for the table. This and other American varieties should be grown in moderate quantities only, as should a wet season ensue they are comparatively useless; on the other hand, should it prove a dry season they are almost invaluable, cropping heavily, and the tubers of the best shape and quality. These remarks are particularly applicable to the American variety Breadfruit. It was equal to the Snowflake for appearance and quality, and more prolific last season, and is quite as good this season. Sutton's King of the Potatoes is a good variety, the haulm is short, and the tubers are produced freely, of good quality and shape. A peculiarity of this variety is that it produces both kidneys and rounds on the same growth. Lady Paget and Lapstone are very similar, and are yet dissimilar. The former variety proved the best last season under the same treatment, and the latter this season. Both are heavy croppers, and for either quality or shape are unsurpassed. Prince Arthur is a good variety, and ought to be in every collection however limited. It is one of the heaviest croppers tried here, and the tubers are very clean, shapeable, and of the best quality. Magnum Bonum is, as far as quality is concerned, the best late kidney, but unfortunately it is of much too robust a habit, the crop being scarcely proportionate. It crops well in poor and rather dry positions (under Apple trees, &c.), which is a good recommendation. The foregoing are all kidney-shaped, given in order of succession. The following are rounds, similarly arranged:—

Fox's Seedling proved the best early, and is undoubtedly a good old variety, quite worthy of resuscitation. Alpha, an American variety, is decidedly the earliest round tried here, but, like Porter's Excelsior, is scarcely at home on our soil; neither variety, however, will be quite discarded. Rector of Woodstock is rather small, but is in every other respect an excellent variety. It makes but little haulm, at the same time the rows ought at least to be 2 feet apart and well moulded up, the roots being very much inclined to ramble. Model is a really good variety, and is rightly named. A good companion is a variety known as the Scilly Red or Carter's Main Crop; both are very productive, handsome, and the quality good. Schoolmaster is a decided acquisition to the late varieties; it is good in every respect, and, what is a great desideratum, matures early, very late-growing varieties being comparatively worthless in this immediate neighbourhood. A good selected strain of the Victoria Regent does well, and the quality is unsurpassed. This season, unfortunately, it is very much diseased, The Red-skin Flourball is grown principally for baking, but it is rather too coarse for boiling. Large quantities of it are grown in the fields, and is by the growers considered an excellent variety—not exactly disease-proof, but less liable to it than many varieties. Most of the Potatoes now in the ground are badly diseased, but we took the precaution of lifting early and before the bad weather set in. The Victoria Regent matured late, and half the tubers have the disease; the others are almost free of it. Lapstone, Model, Prince Arthur, Breadfruit, and Magnum Bonum commenced growing afresh, or supertuberating. This is the case with most of the late crops in the fields, and will apparently be allowed to go on—a practice far from being commendable, as the growers will be benefited at the expense of the consumer. The crop will undoubtedly be heavier, but the quality will be sacrificed.

As before stated late-maturing varieties are comparatively worthless here, simply because usually experiencing dry summers, the crop from light soils being very poor, and on the

other hand if planted on heavy soils it is usually spoilt by disease, this season being unfortunately no exception to the rule. If limited to eight varieties I should select *Mona's Pride*, *Bad-saye's Kidney*, *Snowflake*, *Model*, *Carter's Main Crop*, *Prince Arthur*, *Schoolmaster*, and *Magnum Bonum*.—W. IGGULDEN, *Orsett Hall*.

THE AURICULA APHIS.

I AM in despair, and am almost tempted to say I must give up my favourite flower, for I find this abominable pest as rampant amongst my plants as ever. When I repotted them I took every precaution. All the plants were well cleaned, the loam I used came from Hampshire, and the leaf mould from a distance, and I am sure there was nothing in the soil. The plants thrived well, the pots soon became full of roots, and I thought I was rid of the plague; but on my return from Scotland in July I was told it was on one of my plants at the crown. I then turned out some others, and in one form or another it was, I am sure, in nine out of ten plants; but, strange to say, they exhibited no outward trace of suffering. The foliage was healthy, and where it was otherwise they were evidently out of sorts from some other cause. In my trouble I wrote to my friend Mr. Llewelyn, who told me that he had found some of it at the time of repotting, but that by using a solution of soft soap and tobacco powder, and plunging the pot, plant and all, into it, he had got rid of it. This was good news to me. I adopted his formula, dipped my plants, but to my disgust I find the aphid alive and prospering under the treatment.

The question now arises, From whence has come this fresh invasion? Is it the result of some nidus left on the plants, or does the same cause exist to produce the infestation as that which caused it at first? I am afraid the latter is the true state of the case, for I have found the same aphid (at least so far as I can judge) on the roots of the Lettuce and even the Sowthistle. Hence I am afraid the place is full of it, and do what I can I shall not be able to keep the plants free from it; for if it can fasten itself on the roots of a plant which has only a few weeks of life, how much more likely is it to effect a lodgment on a perennial like the Auricula?

But then comes another question, What is its effect on the plant? I have said as yet I see no marked change in mine. I have examined the roots, and find that where the aphid is clustered on one of the long fleshy roots that still it seems to grow on, and I do not find any of that set appearance which Mr. Horner speaks of and which I found on some of my plants last year. Some weeks ago when I first rediscovered it, and before I knew that so many of my plants were affected, I placed a plant of General Neil on which I found it apart, and have watched it from day to day. The plant grows and looks vigorous and healthy. I have therefore determined not to repot my plants, to try some other remedy, and if it fails to let them remain until the spring. As soft soap has failed I shall try Gishurst. By the way, the plants did not seem to dislike the soft soap at all.

I have mentioned the name of my friend Mr. Llewelyn, and I am sure all who know him will deeply feel for him in the great domestic sorrow he is suffering by the loss of one of his sons, accidentally drowned while bathing on Caswell sands near Swansea on Tuesday last.—D., *Deal*.

THE WARS OF THE ROSES.

I MUST decline to accept the position assigned to me by "WYLD SAVAGE" among exhibitors of Roses when he says, "It is almost a certainty that these two (Messrs. Baker and Jowitt) are first and second at any show; then comes Canon Hole." At the last Exhibition of the National Rose Society, held at Manchester, I took the first prize offered to amateurs (£10 for forty-eight varieties), Mr. Jowitt the second; Mr. Baker telegraphing that his bloom was over.

I cannot, as a rule, exhibit my Roses in their integrity before the 6th or 8th of July; but when they are at their best, and not injured by vernal frosts, to which I am much exposed, I fear neither "Gog" nor "Magog" (not happy titles for amiable rosarians!), and hope to be where I found myself not many weeks ago—at Manchester and Spalding. The Rev. E. N. Pochin, placed fourth on the list, has shown Roses unsurpassed for symmetry and size, and may possibly repeat the performance when he has removed from the disadvantages of a change of residence; and I know some other rosarians who, not possessing

at present the extensive collections of my friends at Exeter and Hereford, would produce Roses of equal, if not superior, merit in smaller quantities. I may mention, for instance, the Roses exhibited by Mr. Soames of Irnham Park at the Crystal Palace, Maidstone, and Manchester.—S. REYNOLDS HOLE.

LOOK TO THE FRUIT TREES.

THE reason why the failure of the fruit crop has been so general has been asked repeatedly. Two reasons have been given—cold and wet in the autumn of last year, cold and wet in the spring of this year; the first preventing the ripening of the wood, the second the development of the fruit. Everywhere blossom was abundant, but in most cases when the fruit came to be looked for it was not to be found, and we were invited to consider and show cause for its so-called mysterious disappearance. Well, I suppose nobody is prepared to gainsay the reason why as I have explained it, and if that is granted let us then inquire if we have no remedy for such a lamentable state of things. I for one think we have no perfect remedy, but am convinced that much may be done to ameliorate the present state of things. A few weeks ago, when driving through the Weald of Sussex near the foot of the South Downs, I saw several Apple trees heavily laden with fruit in many of the snug cottage enclosures and orchards which I passed, affording proof that the trees derived important benefit from the sheltering belts of trees and hedgerows by which they were enclosed. Driving with Dr. Hogg about a year ago through another part of the same district, we went past a small garden open to the road, but completely shut in by trees on the north and east, in which the fruit trees were literally bending beneath their load of fruit. "There," said our Doctor, "see the value of shelter." I might adduce other examples, but the fact of the value of shelter is so well established that my object is rather to urge the application of such knowledge in actual practice than to convey information about that part of my subject.

For the present moment let me advise care and caution in pruning, for I much fear that the immature condition of the wood in spring is often traceable to late summer pruning. To prune a tree hard now is to induce buds that would otherwise remain dormant till spring to start into growth, and, however fine the weather may be throughout autumn, such growth cannot possibly become mature. If, then, the growth is so much crowded as to darken the interior of the trees prune the shoots, but leave them 5 or 6 inches long, so that when growth ceases you may shorten them to full plump buds near the base and upon firm well-ripened wood. When an undue amount of shade is not thrown upon the centre of the tree, then I prefer giving the shoots a twist about 3 or 4 inches from the base and turning the tips downwards, thus imparting a check in the flow of sap to such a nicety that the bottom buds swell almost to bursting, but do not burst until next spring, the mutilated "twist" being pruned away in winter.—EDWARD LUCKHURST.

BATTERSEA PARK.

MUCH as Battersea Park has been admired during past years, and numerous as have been the visitors, it has never been more attractive than during the present summer, nor so largely patronised. The park has been brighter in brighter years, but this year the intense greenness of the lawns and the exuberant growth of trees, shrubs, and ornamental-foliaged plants have abundantly compensated for the absence of glowing masses of Geraniums which could not be produced, or at any rate could not long continue, during such dripping weather as has recently been experienced. Flowers earlier in the season were numerous enough—spring flowers and early summer flowers, flowering shrubs, herbaceous flowers, and bedding plants; but the season for many of these has passed, and foliage tall and stately as in the subtropical plants, and bright and lowly as in the carpet beds, is now in the ascendant.

Yet there are flowers now. The bushes of *Althæa frutex* in the shrubberies richly laden with fine Hollyhock-like blooms are very beautiful. Masses of Dahlias, glowing "Pokers" (*Tritoma Uvaria*), charming groups of that fine autumn herbaceous plant *Anemone japonica alba*, Lilliums, rows of *Chrysanthemum frutescens*, *Salvia patens*, and *Pentstemons*, also *Calceolarias*, *Ageratums*, and a remnant of Geraniums and *Lobelias* are represented, so that there is no lack of cheerfulness. But the foliage plants constitute the chief charm, and

some of these also have attractive flowers—notably the Cannas, which are unusually luxuriant and fine.

Four distinct kinds of garden embellishment are well represented in this park—namely, mixed borders, which are almost always attractive; flower-bed massing with Geraniums and kindred flowers—very gay for a time, but transient, this year very transient; subtropical gardening, which is highly imposing; and carpet bedding, which to the great majority of visitors is perhaps the most attractive of all modes of decoration.

The mixed borders contained the first flowers of the year, and will yield the last. They are not herbaceous borders strictly, but include all sorts of flowers that will flourish in them, and are thus not merely interesting, but are gay, bright, and sweet. To take away these mixed borders would be to deprive the park of one of its chief charms, and certainly the most fragrant: there is, however, no fear of such a calamity, for each year the borders appear to be better than before, and it is evident they receive the attention that they so well merit, and for which they give such a satisfying return. No masses of flowers in the park surpass, if equal, the fine groups of *Anemone japonica alba* now flowering in the mixed borders.

The bedding-out section (flowers) has this year been the least satisfactory of all. The plants were as fine as plants could be, and about 65,000 Geraniums alone were bedded-out, and proportionate numbers of *Calceolarias*, *Ageratums*, and *Lobelias*. These were gay, very gay, for about a month, but the late rains have despoiled them of their beauty. A few of the best bedding Geraniums are John Gibbons, rich crimson scarlet, fine; Edward Sutton, scarlet, very good; Mrs. Lancaster, perhaps the best pink; Lady Sheffield, pink, fine; Capt. Harrison, scarlet; Mrs. Russell Gurney, scarlet, white eye; and Miss Wakefield, cerise scarlet, fine truss. The best silver-edging Geranium is Princess Alexandra, and the best dwarf golden bicolor is Earl Rosslyn. The best *Lobelias* are Ebor, very dark, dwarf, and rich; and Kaiser Wilhelm, stronger grower, fine for large beds.

In striking contrast to the flower beds referred to are the stately and commanding groups of subtropical plants. Some of the beds of these are now splendid, and equally so are the isolated specimens on the lawns of *Musas*, *Palms*, *Aloes*, &c., while the Fern dell and vista are quite charming. Perhaps the finest bed in the park is a large oblong planted with *Canna Van Houttei*, edged with *Amaranthus melancholicus ruber* mixed with *Abutilon niveum variegatum*, and margined with *Dactylis glomerata variegata*. The bed is raised above the level of the lawn, and the *Dactylis* droops down the slope like a fountain of silver. The mixture of the *Abutilon* and *Amaranthus*, too, is strikingly effective, and associates well with the rich mass of *Cannas* which occupy the centre of the bed. *C. Van Houttei* has purplish bronze foliage and produces its bright crimson-scarlet flowers freely. It is one of the most effective of the dark-foliaged varieties for large beds. A few other of the more useful of the *Cannas* may be appropriately noticed here. The old green-leaved variety, *C. Annei*, is one of the most luxuriant in growth of all, and is represented by grand masses 8 feet high; it has small pale yellow flowers. Much finer as regards flowers, indeed the best of the yellow-flowering varieties, is *C. Annei grandiflora*, the flowers of which are very large and bright. The best green-leaved variety of moderate growth is perhaps *C. peruviana*, and the richest dark-leaved sort is *Adrian Robinii*; this has remarkably rich foliage, and will probably be more extensively grown in future. *C. Prince Imperial* is perhaps the best of the dwarf-growing varieties. The sorts named all possess merit, and are well adapted to the various positions in which *Cannas* are grown. Another grand bed in this section is planted with *Polhymnia grandis*; the plants are unusually luxuriant, and show plainly that this is one of the finest subtropical plants in cultivation. *Wigandia caracasana* has an undergrowth of variegated *Veronicas*, crimson *Lantanas*, and *Plumbago capensis*—both stately and pretty. Of a totally different character is a bed of *Buonapartees*, fine specimen plants, one of them flowering; each plant having a green carpet of *Sedum lydium*, the general groundwork of the bed being of Golden Chickweed. Another bed of the same nature is planted with tall *Cordylines*, having a groundwork of *Iresine Lindenii* intermixed with *Gnaphalium lanatum*, and a belt of *Chamæpuce diacantha* in a carpet of *Sedum glaucum*, the bed having a margin of *Alternantheras* and *Echeveria glauca metallica*. Totally different, again, and one of the most pleasing beds in the park—

one which combines elegance with brilliancy in a remarkable degree, is a raised bed of Tuberous *Begonias* dotted thinly with *Jacaranda mimosæfolia*. The *Begonias* are laden with flowers, and their bright colours shine attractively through the graceful foliage of the *Jacaranda*. These *Begonias* evidently require a somewhat raised position, yet sheltered, to display them to advantage. Another *Begonia* flowering freely in association with fine-foliaged plants is *B. ricinifolia*; it has leaves, as its name suggests, almost exactly resembling those of the Castor-oil Plant, and flowers not unlike those of *B. manicata* but larger. Another bed near contains *Eurya latifolia* and *Fuchsia Sunray* as a groundwork, but not closely pegged, and a canopy of *Acacia lophantha*: it is very chaste. *Fuchsia Golden Treasure* is the best of the yellow-foliaged varieties, and affords a cheerful belt to such plants as *Ricinus*. *Cannabis gigantea*, *Ferdinandias*, *Solanums*, *Grevilleas*, and *Ficus* are represented, and the distinct *Polygonum Sieboldii* has a stately yet graceful appearance: a newer variety, *P. sachalinense*, has larger foliage, but is not more generally attractive than the old favourite. A bed containing healthy and well-coloured plants of *Pandanus Veitchii* attracts notice, as also does a fine group of *Brugmansias* with pendant trumpet-shaped flowers; and another group, totally dissimilar, of the Coral Plant *Erythrina Crista-galli*.

"Fern Hollow" is every year one of the most admired portions of the park. The most striking plant this year is a splendid specimen of *Pritchardia pacifica*, than which a finer example is seldom seen at exhibitions. Another conspicuous plant under the Tree Ferns is a massive specimen of *Pothos acaulis*, which in the distance resembles a huge Bird's-nest Fern. In the background are large *Philodendrons*, *Bananas*, *Cycads*, &c.; trained to the trunks of the trees is *Monstera deliciosa*, and in the foreground stumps covered with *Platyceriums* produce an unique effect. The long vista opposite has a similarly cool and refreshing appearance, the smooth undulated lawn and banks being overshadowed with the fronds of *Palms* and *Ferns*, resembling a tropical forest scene in miniature.

Many isolated specimen plants dotted on the lawns must be passed, but one demands notice—a grand example of the Abyssinian *Banana*, *Musa ensete*. This is the terminal plant of one of the picturesque nooks with which the park abounds. This nook, near the Fern and Palm groups alluded to, is flanked by fine masses of *Cannas* edged with *Funkias*; but the terminal plant is the chief object. The principal leaves including footstalk measured a few weeks ago 11 feet 6 inches in length; they are enhanced in beauty by their deep red mid-ribs. It is feared that this imposing plant has grown too large for its winter quarters, which cannot but be regretted. It is such plants as these that distinguish the London parks from the majority of private gardens, and it would be well if the Government could feel justified in providing structures suitable for preserving such valuable specimens. The admirable manner in which all the parks are managed, the suggestions they afford, and the lessons they teach in decorative art, also the real enjoyment they contribute to thousands of visitors from all parts of the country, are reasons why all the aids possible should be afforded not only to sustain but to increase the fame and prestige of these important public gardens.

The carpet beds yet remain to be noticed. The notice must be brief, because it is next to impossible to render the appearance of the beds intelligible without giving diagrams of every bed. It is noticeable that blue *Lobelias* are quite dispensed with in carpet-bedding designs. They are too uncertain in growth to be relied on, and they are only in beauty during a limited period; for this reason no flowering plants are employed in carpet beds, nor none are needed. Beds of plain outline are the most suitable for this mode of embellishment, such as circles and oblongs, beds of fantastic shape not permitting designs being well displayed in them. In this style of bedding a great effect can be made with a few varieties of plants. Thus the largest carpet beds in this park are occupied with Golden Feather and *Alternanthera amœna* arranged somewhat after the pattern of a Turkey carpet, and the combination of these two colours is highly effective. The beds have an edging of *Antennaria tomentosa* margined with *Sedum acre elegans*. A round bed has central mass of *Alternanthera amœna*, narrow scrolls of Golden Feather enclosing masses of *Alternanthera amœna*, the angles and edge being occupied with *Leucophyton Brownii* margined with *Sedum acre elegans*. Another circular bed has a central diamond of *Alternanthera paronychioides* major; four designs of *Alternanthera amœna* enclosed with

Golden Feather, and angles of *Veronica repens*, a green carpet plant of much promise and employed for the purpose for the first time. Those beds are very beautiful, the *Alternanthera amœna* being especially rich. But the favourite beds, judging by the manner in which the public crowd around them, are what are popularly termed the "coffin beds," a somewhat gloomy yet withal an expressive term. There are two beds each nearly 20 feet long and 6 feet 3 inches wide near the broad end, tapering to 4 feet 6 inches at the narrow end. The two beds are divided by a circular bed 6 feet 6 inches in diameter. A diagram of this circle is submitted to show the extreme simplicity of the planting; also of one of the long beds (fig. 27), the other being an exact counterpart.

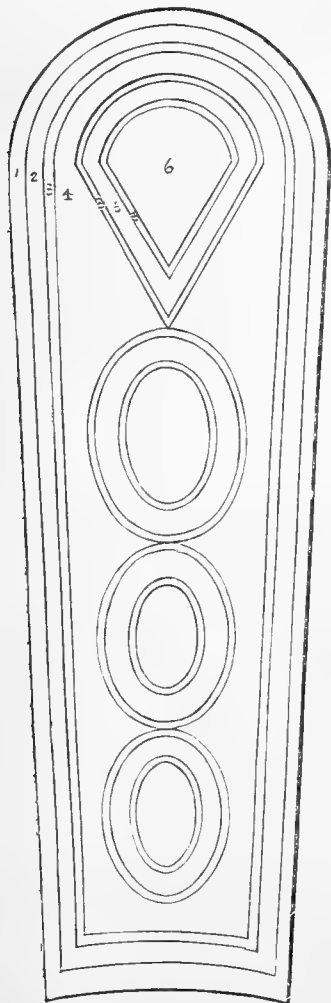


Fig. 27.

- 1, Raised edging, *Echeveria glauca* (double row).
- 2, *Alternanthera amœna* (double row).
- 3, 3, 3, Golden Feather (narrow line).
- 4, *Mentha Pulegium gibraltaria* (groundwork).
- 5, *Sedum glaucum* edged with *Kleinia repens*.
- 6, *Alternanthera paronychioides major*.

The whole of the centres are planted with *Alternanthera* surrounded with narrow lines of Golden Feather. These impart colour, lines of the same plants being arranged near the margin of the bed forming an admirable balance; but perhaps the chief charm consists in the 6-inch band (5 in the diagram), of *Sedum glaucum*, with an edging next the Golden Feather of *Kleinia repens*, the erect growth of which appearing above the *Sedum* is highly effective yet extremely chaste. The colours are well displayed by the green groundwork of *Mentha*, and the whole arrangement evinces taste in conception and skill in manipulation, for in point of finish the beds are as

near faultless as we can imagine beds to be. The round bed (fig. 28), has a margin (1) of *Sedum acre elegans*, a band (2) of *Leucophyton Brownii*, and an inner line (3) carried round the rays of the star and circle of *Alternanthera amœna*, the rays and centre (4) being planted with *Sedum glaucum* dotted with *Pachyphyton bracteosum*, and the angles (5) with the same *Sedum* dotted with *Cacalia tomentosa*. The appearance of this bed is quiet and sober, and shows to advantage the two long beds which it divides, and with which it is associated.

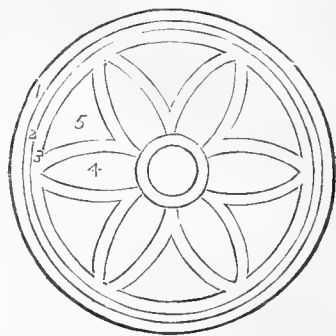


Fig. 28.

Other portions of the park deserve notice, but only one can be alluded to—the Alpine Garden, and this only because it places under the eye at a glance five green carpet plants—namely, *Pyrethrum Tchihatchewi*, excellent for large banks and dells; *Leptinella scariosa*, with its much-toothed leaves, and well adapted for the same purpose; *Cerastium arvense*, too dull in colour and unlevel in growth to be recommended; the *Mentha* above referred to, admittedly one of the best green carpet plants; and *Veronica repens*, dwarf, rich, green, the only real rival the *Mentha* has, and likely to be heard of again. To make a sixth green carpet plant there is in an adjacent bed *Herniaria glabra* of low slender growth and graceful, yet somewhat dull in colour. The two most useful plants of this nature are the *Mentha* and *Veronica*.

It is pleasing to hear that, while it is not unusual for 25,000 visitors to assemble in the park during Sunday evenings in summer, it is very rare that any injury is done to plants, shrubs, or flowers—the best proof that the excellent work of Mr. Roger, the Superintendent, and his assistants is appreciated.—J. WRIGHT.

GRAPES SHANKING.

Is the shanking of Grapes more than usually prevalent this year? It is so with me, not because the Vine roots are too dry, for abundant supplies of water have been given to the inside borders, and to outside also during hot dry weather; nor is it because of stagnant moisture at the roots, for the borders rest on the limestone rock and water gets away quickly; nor is it on account of overcropping last year or this, for the Vines which bore the lightest crops both seasons are the worst shanked.

The Vines (planted in a span-roofed house 40 feet by 20 in the spring of 1874) are very strong, the foliage large, leathery, and clean. They are Black Hamburg, fine in bunch, berry, and colour, and scarcely a shanked berry; Alicante, good bunches, no shanking; Madresfield Court, good bunches, large berries, a few bunches shanked at the tips; Dr. Hogg, fine long bunches, some few shanked at the tips; Buckland Sweetwater, large loose bunches, very large berries, many shanked in every bunch; Muscat Hamburg grafted on Black Hamburg, splendid bunches, but more than half the berries gone—this has always behaved badly; Ferdinand de Lesseps, no shanking; Golden Queen, a strong three-year-old Vine with only three bunches, which look as if they would go altogether; a Black Hamburg and Madresfield Court planted in a narrow border in the middle of house, which cannot get a drop of water except from the can, have each a good crop with not a berry shanked, and quite up to the mark in size and finish, though densely shaded by the roof Vines.—BLACK HAMBURGH.

THE TRANSFUSION OF ESSENCES.

HAVING recently read your remarks on the transfusion of essences in the Journal of the 15th ult. leads me to believe that other cases of it may interest you, though perhaps the one I have to record is a more common occurrence.

In January last I inserted buds of last year's growth of the White Sweetwater Vine into the main stem of a Black Hamburg. Three of them grew; two are bearing fruit, and are

now ripe, one bunch on each. The one is true to character in every particular, so also is the other except in colour, which is as black as the Hamburgs. They have been seen and tasted by our friend Mr. Robson of Linton and others; but the bunches, though somewhat reduced in size, still remain on the Vine to be seen by any who may like to look at them. I hardly like to cut them, or I would send you a few berries of each in proof.—W. B., *Preston Hall, Aylesford, Kent.*

SANDY HORTICULTURAL SHOW.

AUGUST 30TH.

A PLEASANT and appropriate site for a show, with good approaches and convenient railway accommodation at the junction of the Great Northern and London and North-Western lines in the midst of a fertile market gardening district studded with gentlemen's seats, a liberal subscription list, a well-organised Committee, and, above all, energetic Secretaries, form a combination of advantages which have enabled the Sandy and District Horticultural Society to hold in a small village one of the best of local shows. The Society is indeed fortunate in being thus privileged, and had it not been for the frowns of Jupiter Pluvius in the early part of Friday last I might have recorded the Exhibition as a perfect success.

The Show was held in the stately little park of Sandy Place, kindly lent for the occasion (as is his custom) by J. N. Foster, Esq. The site was within five minutes' walk of the two railway stations, and notwithstanding unfavourable weather the Show was attended by many thousands of visitors, and it is hoped may prove a financial success. The whole affair is usually carried out on such a scale and with such spirit that only those who have not been to the Sandy Show previously need be surprised. The Society embraces under its fostering wings not only plants, flowers, fruits, vegetables, and dinner-table decorations, but Mangolds and other roots, cereals, Beans, big Gourds, live and trussed poultry, honey, butter, cage birds, live bees, needlework, and darning!—a tolerably wide field with scope for most tastes, and to judge from the earnestness of the attendant visitors each department had its zealous admirers. The excellent band of the Coldstream Guards under the leadership of Mr. F. Godfrey, and a public dinner under the presidency of J. Shuttleworth, Esq., the Society's President for the year, served as agreeable counter-attractions.

The Show altogether occupied nearly a dozen large marquees, and the magnificent plants exhibited by Mr. J. House of Peterborough and Mr. Parker of Rugby, who divided honours in the open class, and by Mr. John Cook, gardener to Col. Stuart of Tempsford Hall, and Mr. Rabbitt, gardener to Major-Gen. Pearson of The Hassells, Sandy, who were each successful exhibitors in that department, were a great attraction; but, as might be expected in a market gardening county, fruit and vegetables were the strong points of the Show. The former occupied nearly the whole of the centre table of a marquee nearly 100 feet long. For the open collection of six varieties of fruit in baskets there were nine competitors, the first prize falling to Mr. Tillbrook, gardener to B. Brown, Esq., of Houghton, who had good Black Hamburg and Muscat of Alexandria Grapes, Peaches, Melon, and Golden Drop Plums, all thoroughly ripened; Mr. R. Waller, gardener to J. Howard, Esq., Bedford, coming in a good second. Several good collections were also shown in the amateurs' and cottagers' classes. As the highest prize offered for any collection of fruit was only 15s., it appears that large prizes are not always necessary in order to procure a good show; indeed it is a healthy sign, and it is fair to presume that, in this district at least, exhibitors are not always worshippers of Mammon, and that advancement of the craft has more weight with many than the desire for gain. For black Grapes the first prize was awarded to Mr. J. W. Shepherd, gardener to F. Martin, Esq., Great Staughton, Hunts, for two extremely fine bunches of Black Hamburg, but which were slightly wanting in colour; and the second to Mr. G. Claydon, gardener to J. H. Astell, Esq., Woodbury Hall, for two smaller but well-finished bunches. In white Grapes Mr. Redman, gardener to — Goodgames, Esq., Eynesbury, was first with good Muscat of Alexandria. Mr. G. Clutton, gardener to Mrs. Percival, The Bury, Arlesey, was first for Scarlet-fleshed Melon with Duke of Edinburgh, and Mr. W. Rachelous, St. Neot's, for a Green-fleshed with Eastnor Castle. Peaches, Nectarines and Plums were also shown remarkably fine, the latter especially so; the first prize for kitchen Plums going to Mr. George Vigne, gardener to J. H. Thornton, Esq., Kempston Grange, for twelve Kirke's, and for twelve dessert Plums to Mr. Parker, Waresley Park, for Reine Claude de Bayay. In the cottagers' class, too, Goliath was shown large and well ripened.

Vegetables were shown in open, market garden, amateurs', and cottagers' classes, and an immense display was the result. For the collection of eight varieties, open to all, the basket shown by Mr. R. Waller, gardener to J. Howard, Esq., was almost faultless, and a better basket of cleaner stuff all just fit for table has rarely been seen at more important shows; Mr. Robinson, gardener to F. Howard, Esq., Abbey Close, Bedford, being a good

second. Creditable collections were also staged in the amateurs', market gardeners', and cottagers' classes. Of course, in Bedfordshire Onions were an important feature and almost a study—they might indeed be said to vie with the "noble tuber" for supremacy; but the latter being represented in strong force did not seem inclined to bow to the claims of its more fiery compeer, for notwithstanding the recent rains and state of the atmosphere an immense variety of clean, smooth, and well-ripened Potatoes free from disease were shown.

The first prize in the open class for twelve round Potatoes was awarded to Mr. Waller for a very good type of the Schoolmaster, and the second also for Schoolmaster. All through the Exhibition this Potato was shown remarkably well, and it fully justifies the award of a first-class certificate made to it by the Committee of the International in 1876. Nearly all the specimens consisted of clean though rough-skinned, almost perfect balls of good size. It is not only a Potato to look at but a Potato to eat, and, if I am not mistaken, it will do credit both to Mr. Bennett, the fortunate raiser, and to Mr. C. Turner who sent it out. For twelve kidneys Mr. J. Hills, the Sewage Works, Bedford, was first with fine specimens of Fenn's International; Mr. Rodwell, Biggleswade, being second with Myatt's. For the collection of Potatoes, six sorts, three round and three kidney, six of each, there was a very strong competition, several good collections having to be placed under the tables. Mr. R. Waller was first with a well-matched lot, very clean and sound, and not too large, consisting of Schoolmaster, Late Rose, Model, Bresee's Prolific, Snowflake, and Brownell's Beauty. In the market gardeners' class for a collection of Potatoes, twelve of each variety, Mr. George Kirby, Arlesey, was first, showing very good specimens of Early King, Extra Early Vermont, American Breadfruit, Model, Myatt's Prolific, Rector of Woodstock, a good unnamed red kidney, apparently Red Fluke; Early Rose, and Giant King, not unlike Early King, but with a few more eyes; Red Peerless (fine) and Challenger, a variety in appearance much like Schoolmaster. Mr. John Cox of the Three Counties Asylum, Arlesey, was second with larger specimens, but not quite so clean. The following varieties were also noticeable as useful exhibition sorts—viz., Radstock Beauty, round, splashed red, something like Marchioness of Lorne; Peach-blow, very good; Snowflake, shown both as round and kidney; Alpha, very smooth and white; Blanchard, Vermont Beauty, and Sutton's Early, which appeared to be Magnum Bonum.

Onions were good, especially the White Spanish, of which two different types were shown, the majority of exhibitors having the ordinary variety with a pale greenish skin, whilst in two collections a variety not quite so perfect in form, but equally large, with a pinkish yellow-tinted skin, was exhibited. Good specimens of the Blood-red and White Globe were also staged, the latter varying in shape from an urn to a perfect globe.

Cucumbers were largely exhibited, some of the field-grown ridge varieties reaching 16 inches in length, but nearly all showed a tendency to swell at the point, being evidently free seeders. For the best brace of frame varieties Mr. Rabbitt and Mr. Tillbrook were placed equal first, the former with a matchless but well-matched brace of Tender-and-True, the latter with a very fine black-spined variety unnamed; and Mr. Waller was close up as second, again with Tender-and-True. Peas for the season were also good, the best shown being Ne Plus Ultra, Omega, British Queen, Criterion, and Fillbasket. Intermediate Carrots, called in the Schedule "St. James," were well shown. Turnips also, especially a White Globe variety staged by Mr. R. Facey, cottager of Goldington, were remarkably white, sound, of perfect form and yet good size; but upon the whole roots showed a tendency to fork, a complaint which is general and attributable to the season.

The heaviest Gourd showed by Mr. Joseph Holmwood, gardener to J. N. Foster, Esq., weighed 154 lbs. There were also some immense but perfect specimens of the Large Red and Drumhead Cabbage which attracted considerable attention. Tomatoes were also good and well coloured, those shown by Mr. R. Facey in his collection of vegetables would not disgrace the best growers.

The show of cut flowers was good, and included Roses; Mr. John House of Peterborough being first with some fine autumn blooms, including Auguste Neumann, a Rose which always stands well; Duchesse de Vallombrosa, clean but small; Star of Waltham, fine; Hippolyte Jamain, and Baron Hausmann. In the twelve varieties, amateurs, Mr. D. Sewell, St. Neot's, was first, having neat blooms of Niphetos, Pierre Notting, Duke of Edinburgh, Hippolyte Jamain, and Mlle. Victor Verdier; Mr. John Burton of Sawtry was second with a very creditable stand well set up, including Pierre Notting, John Keynes, Devienne Lamy, and Mlle. V. Verdier. The Rev. E. Fellowes, Wimpole Rectory, Royston, was third, having fresh blooms of Souvenir d'un Ami, Marechal Niel, and Etienne Dupuy. A good stand not for competition, mounted on black velvet and with ample foliage, from Mrs. Sewell, showed to much advantage. Gladioli were not largely shown; a good six, however, came from Mr. P. Meyer, Orwell. For Dahlias (twelve Show varieties) the Rev. E. Fellowes was first, and for six Fancies Mr. P. Meyer,

Asters were remarkably good, especially the incurved or Chrysanthemum-flowered, for which Mr. Fellowes was first, Mr. Tillbrook second, and Mr. Redman third; for twelve Peony-flowered Mr. Tillbrook was first with a very fine stand, Mr. Redman second, and Mr. Meyer third; for German Globe varieties Mr. Fellowes was first with some distinct and well marked varieties. Double Zinnias were the finest I have seen, and all the usual colours seem now to be represented in large and perfectly double flowers, an immense advance having been made in this attractive flower during the past decade. Mr. Meyer was first, and Mr. Tillbrook second. African Marigolds were shown very large and fine by Mr. Meyer, and Mr. Tillbrook was first for French. Verbenas were unattractive, being principally staged as single blooms. Coleus, Caladiums, Fuchsias, and Zonal Geraniums included some well-grown plants, and a very brilliant specimen of Coleus Duchess of Edinburgh attracted much attention.

In a very good competition for dinner-table decorations Miss Pearson of The Hassells, Sandy, was deservedly first, the delicate flat blue of *Plumbago capensis* being considerably used with good effect; Miss A. Raye of Tetworth Hall was second; and Miss H. Astell, Woodbury Hall, third. All the exhibits in this class were meritorious and showed good taste. For bouquets Mr. H. Rempton, Ely, was first; Mr. R. Parker, Waresley Park, second; and Mrs. Sewell third. For button-holes Mrs. E. T. Leeds Smith, the wife of the energetic Honorary Secretary, was first with a very prettily mounted trio.

An exhibition of live bees, notwithstanding the once-feared pains and penalties, drew crowds of interested spectators at 3d. each; and if in the twentieth century suffocation is still in vogue amongst bee-masters it will not be the fault of the Rev. H. R. Peel, Hon. Sec. of the British Bee-keepers' Association, to whom humanity owes so much. The exhibition of bees was conducted by Mr. Baldwin of the Alexandra Palace, the expert to the Association, kindly assisted by Mr. Huckle of King's Langley. It was here where one of the first exhibitions of the kind was held. Honey as shown in the comb was free from brood, but several supers were rather dark in colour from having been kept too long in the hive, whilst that shown in glass jars in a liquid state by Mr. S. Hone of Ashwell was of a brilliant light golden colour, and very clear. The first-prize Kohl Rabi from Mr. T. J. Cranfield of Roxton were large and perfect in shape. The best Barley was shown by the Rev. J. Richardson of Sandy Rectory, and the best Wheat by Mr. John Cox of the Three Counties Asylum, and Mr. G. Matthews of Beeston.

The show of poultry and cage birds was also a success.

The management at Sandy is unusually good. Open showing is in vogue, and the names of the exhibitors are printed in red ink on the class cards; but in consequence of the absence of the description of the class which is usually written or printed on the cards, and the insignificant size of the number as written on the cards, some confusion followed, the exhibitors rarely placing the proper card on their exhibits. A good plan of having blue cards for first prize and red for second is followed; and where there is so much good it appears like cavilling to point out a defect, but the exhibiting of large stove and greenhouse plants on lofty staging is a terrible eyesore, and must add much to the labour of the exhibitors as well as to the risks and expense. The Society would do well also in future to discourage, especially amongst cottagers, the showing of unripe fruit and vegetables, and to encourage the correct naming of the specimens—a palpable defect at this Exhibition, and one which takes away much of the educational advantage to be derived from a horticultural show.

The Society and the public are much indebted to Mr. Foster for the use of his pretty and admirably adapted grounds, and to the Rev. J. Richardson for throwing open the attractive rectory gardens; the tasteful bedding-out, however, in both places showing unmistakeable signs of the early autumn season and the late rains. At the rectory visitors were much struck with the beauty of a magnificent old plant of *Plumbago capensis*, which covers the whole back wall of a large conservatory and is a glorious sight.

The Society seems altogether admirably appointed and supported, and the Exhibition is a credit to the neighbourhood.—T. LAXTON, Bedford.

DRESSING CARNATIONS.

I DO not grow Carnations either for exhibition or for the decoration of the garden, for the simple reason that unless I wire every bed I should not be able to preserve a single plant from the rabbits; but I am very fond of the plant, and I know several of the largest growers both amateur and professional, and I have exhibited Roses at a sort of joint show where Carnations were shown. I had never seen florists dressing their flowers before, and I must express my opinion that it was a very unedifying sight. The lovely flower was seized by the scruff of its tender throat, much like a poor victim is seized by the dentist, and a pair of ivory tweezers were employed in pulling every single petal out of its place. "I say, old fellow,

have you seen these Carnation fellows dressing their flowers?" said a brother rosarian to me. "They are like a lot of ladies' maids," I answered, "preparing their mistresses' heads for a ball."

It was most amusing work watching them; and certainly the difference they made to their pets, and the improvement or the reverse that they effected in Nature's handiwork, was so great that I am sure the dame herself would not have recognised her children. Now is this right and proper? If it is, how is it that this, so far as I am aware, is the only flower which is manipulated in this way? How is it that we rosarians are content to show our blooms as they are grown? What would be thought of a man who fastened down with gum or some cosmetic the inmost petals of the somewhat thin Etienne Levet, or of the operator who applied some sort of contrivance which held the Rose in a grip like a vice and prevented its opening? No end of a row would be made about it, and quite properly too.

If this practice goes on we shall come to this: It will not be the best florists or the best flowers that will win; it will be the most skilful operators and the most highly dressed and artificial flowers that will carry off the prizes. Such a result may be wished for by some florists, but it is altogether repugnant to the feelings of a—WYLD SAVAGE.

NOTES FROM KEW GARDENS.

STATICE ROSEA is a charming novelty in the Temperate house at Kew. It is a shrubby species with erect branches, and is in contrast to all others for pot culture in the merit of pink or rosy flowers. The one deficiency is that of dwarf habit, which might be improved by crossing. It is native of Natal. *Habrothamnus fasciculatus* in the same house is now the most showy of greenhouse shrubs. Every branch is terminated by a panicle of red flowers, and these after some time will be succeeded by beautiful berries of similar colour. Fuchsias here are a good feature; they are planted in the beds and trained to tall stakes, by which they form conspicuous floral columns, and admirably relieve the green shrubs around.

In the Palm house are several attractive plants. *Dichorisandra thyrsoiflora* is attractive on account of its deep purple flowers, which open in long succession, and in company with massive foliage makes an effective specimen. *Pancratium speciosum* is one of the best stove bulbs; it flowers freely, and is easily cultivated. The pure white flowers with long and narrow segments are perfect in their way. Another fine plant in flower is *Lagerstromia indica*; it makes a graceful much-branched shrub with small leaves, and now profusely bearing pretty pink flowers, peculiar in appearance from the long and slender claws of the petals. It is equally worth the trouble and attention to which the majority of stove flowering shrubs are indebted for their decorative value. *Crinum Moorei*, flowering in the cool end of the T range, is one of the best species; it has large well-formed flowers of the most delicate pink colour. Though nearly, if not quite, hardy, it is best grown under glass, attaining out of doors some slight degree of coarseness. For greenhouse decoration it is of great value, flowering well and keeping in good condition with the slightest attention. In this division are many varieties of the tuberous-rooted section of *Begonia*, affording good opportunity for selection. The largest flowers appear often in company with the worst habit, and probably much remains to be done in combining the several good points. This group appears to be more than ever popular, and the number of seedlings raised must be immense. An interesting hybrid, raised by Colonel Trevor Clark between the so-called genera *Ismene* and *Elisena*, is flowering here. It has much the appearance of *Ismene calathina*, one of its parents, and not partaking conspicuously of *Elisena*.

Flowering in the Succulent house is the rarely seen *Adenium obesum*, a gouty-stemmed Apocynad bearing handsome crimson flowers. *A. speciosum* has also been freely in bloom. This is nearly allied to the last, and it also grows in the desert, *A. obesum* coming from Aden, after which town the generic name is taken.

TROPÆOLUM SPECIOSUM.

WHEN, three years ago, I first saw this beautiful plant in Scotland and was so struck with its appearance, I was told that it would not do in the south, or if it did that it could only be grown on a north aspect; and this opinion concerning it is

so prevalent that one very eminent firm to whom I wrote, asking why it was excluded from their lists, replied that it was so disappointing that it would not grow except in a north aspect, and even then would not flower, and so they had omitted it from their catalogue. It is high time that these fallacies should be discarded. Two years ago Mr. Duthie, the gardener at Penninghame Castle near Newton Stewart, where I saw it in great perfection, kindly sent me some roots. I planted them in a bed under my dining-room window, the aspect being as nearly south as possible. Last year the plants grew and had a few blooms; they were left undisturbed, and this year they have grown and flowered most luxuriantly, in fact as freely as I saw them in Scotland at the same age. The truth is that all that it requires is to be let alone. As soon as it gets established it commences to flower vigorously, and each year more and more so. In passing through the Trossachs this year I saw the front of the manse, which stands high up and fully exposed to the sun, covered with it; and unless in very hot and dry situations I believe it will do quite as well with us southerners as in bonnie Scotland.—D., *Deal*.

[The small spray enclosed is admirably flowered and very beautiful.—EDS.]

ROSES IN POOR SOIL.

I HAVE read the sorrows of "WYLD SAVAGE," and should not have tendered advice unless he had requested it. I do not like tendering advice, for it seems to argue superiority, which I do not feel.

My advice to him is to trench a portion of his ground, and take out all the stones; then manure the ground and plant the Roses deeper than usual, and place the stones in a radius round the plants. Stones are an excellent mulching; as the ground under them is always kept moist by the evaporation being arrested. Roses suffer from evaporation. Properly the whole ground should be mulched.

Manetti Roses when planted should be covered 2 inches over the roots with soil; a trench should be dug, and soil and manure should be trodden as hard as possible against the stocks, the scion eyes in the stock having been cut out.

Instead of renewing the soil, sow now the Early Stone Turnip, and eventually chop them up and dig them in. The vegetable matter will do great good. I tried it some years ago and found it succeed. If "WYLD SAVAGE" can obtain cow manure, liquid and solid, he will find it advantageous to his Roses. I use it here chiefly liquid, and I never in twenty-seven years have known my Roses do so well as this year. They promise me a fine autumnal bloom. I can strongly recommend Star of Waltham and Queen of Waltham; they are two of the best Roses that I have bought for some years. They are of fine outline, are full to the centre, and abundant and free bloomers. In conclusion, I think Maréchal Niel and Louis Van Houtte to be the two finest Roses; to which may be added Charles Lefebvre, Alfred Colomb, Marie Rady, Madame Lacharme. The two first do better on the Giffraie stock than on Manetti.—W. F. RADCLIFFE.

CHOICE GARDEN ORCHIDS.—No. 4.

VANDA, *Lindl.*

ETYM.—*Vanda*, the Hindoo name.

This genus contains some of the most beautiful of the Old-World Orchids; they are all natives of tropical Asia. Until recently but few species were known; the rigid search for new plants during the last few years, however, has considerably increased our knowledge and added several beautiful kinds to our collections. Vandas are characterised by their coriaceous leaves, which are arranged in a two-ranked (distichous) manner, which, however, vary much in length in the different species. The flowers are for the most part large and highly coloured, the outer portion of the flower—that is, the sepals and petals, being usually alike both in shape and size, the labellum more or less saccate and three-lobed, the middle lobe being large and fleshy.

CULTURE.—The details given in our previous notes upon the genus *Aërides* will apply with equal force for the genus now under consideration. Special care must be taken that these plants do not suffer by want of water during the season of rest, or the lower leaves will at once turn yellow and fall off, to the great disfigurement of the specimen. They enjoy a high temperature, with the atmosphere well charged with moisture, saving the one or two exceptions which we have

noticed specially in describing the species. For further details see *Aërides*. Temperature—Summer, 75° to 85° day, 65° to 75° night; winter, 65° to 70° day, 60° to 65° night.

Vanda Bensonii, Bate. (Bot. Mag., t. 5611).—This is a very beautiful species, belonging to the same section or having some affinity with such kinds as *V. Roxburghii*, &c. Leaves channelled, obliquely toothed at the apex, coriaceous in texture, 6 to 8 inches long, and dark green. Raceme erect, longer than the leaves, twelve to fifteen-flowered. Flowers some 2 inches in diameter, lax, and borne upon long footstalks.

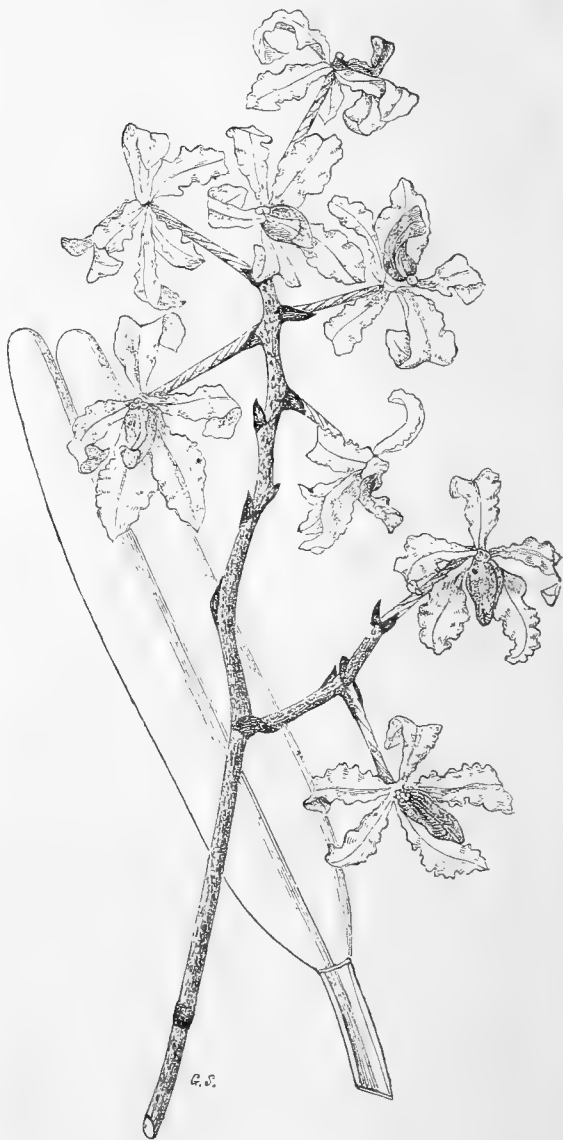


Fig. 29.—*Vanda undulata*.

Sepals larger than the petals; both are obovate, obtuse, furnished with a claw at the apex. Colour yellowish green, with numerous reddish brown dots, reverse side china white. Lip ovate in front, with a bifid apex traversed with three ridges, and having two small triangular side lobes, which are white, the centre lobe being deep violet. Spur conical, obtuse, white. It blooms usually in early summer. Rangoon. 1866.

V. cristata, Lindl. (Bot. Reg., 1842, t. 48).—A curious and beautiful small-growing species. Leaves channelled, recurved, truncate at the apex, and bright green. Raceme erect, shorter than the leaves, three to four-flowered. Sepals oblong, obtuse. Petals narrower and incurved, white tinged with green. Lip oblong, convex, traversed with furrowed lines, and curiously horned at the apex. Colour buff, striped with deep purple,

and spotted with brown. Spur short and conical. Early spring and summer. Nepal, Bootan, and Sikkim. 1840.

V. Denisoniana, Rchb. fil. (Bot. Mag., t. 5811).—This is a small-growing handsome species. Leaves ligulate, somewhat recurved, thick and fleshy in texture, unequally bilobed at the apex, about 8 inches in length, and dark shining green. Raceme ascending, five to six-flowered. Sepals and petals reflexed, cuneate oblong; the latter hastate, pure milk white, tinged with greenish yellow at the apex. Lip same colour, stained with orange round the mouth of the spur, bearing a bilobed callus at its base and five elevated ridges on its disc. Spur short, obtuse, downy on the inside. May and June. Burmah.

V. alpina, Lindl. (Bot. Reg., 1838.) Syn., *Luisia alpina*, Lindl.—A small-growing species, which when not in flower bears a great resemblance to *V. cristata*. Leaves channelled, recurved, two-lobed at the acute apex, frequently with a stiff point between the lobes, dark green. Raceme erect, two to four-flowered. Sepals and petals oblong, the former the largest, of a uniform pale apple green. Lip yellowish green, streaked with blackish purple, oblong, the hollow base intensely black, apex swollen and slightly notched. May and June. Khasia, at 5000 to 6000 feet elevation.

V. insignis, Bl. (Bot. Mag., t. 5759).—This is an extremely rare and very little known species, a variety of *V. tricolor* generally passing for it, from which, however, it is abundantly distinct. "Leaves channelled, linear, but slightly narrowed at both ends, closely imbricating below, obliquely truncate at the ends, 10 inches long and upwards of 1 inch broad, deep green. Raceme pendulous, shorter than the leaves, three to eight-flowered. Flowers spreading, 2½ inches in diameter. Sepals obovate spatulate, obtuse, and fleshy. Colour bright ochraceous brown, with darker brown blotches, reverse side white. Petals similar, but not so broad. Lip three-lobed; side lobes small; middle lobe fiddle-shaped, spreading out in front into a semilunar concave link of a rosy red. Disc furnished with two low ridges. Spur compressed, obtuse, and recurved." It blooms during May and June. Moluccas. 1868.

V. Roeburghii, R. Br. (Wight's Icon, No. 916).—A dwarf-growing plant, which on account of its not being so showy as some of the more recent introductions, has been to a great extent neglected. It is, however, a very handsome and desirable species. Leaves lorate, channelled and keeled below, oblique and three-toothed at the apex, deep green. Raceme erect, about same length as the leaves, bearing from three to eight flowers. Sepals and petals oblong obovate, obtuse at the ends, with slightly undulate margins. Ground colour white beautifully chequered with purple. Lip three-lobed; middle lobe convex, bluntly ovate, notched at the front, rosy red; lateral lobes acute, and about same length as the column. July and August. Assam. 1810.

V. Cathcarti, Lindl. (Bot. Mag., t. 5845). Syn., *Esmeralda Cathcarti*.—A rare and beautiful species somewhat remarkable from its lax habit of growth. It would seem to enjoy an exceedingly moist atmosphere. Want of attention in this matter has led to the inference that the cultivation of this species is beset with unusual difficulties. Leaves 6 to 8 inches in length, linear oblong; the apex oblique and two-lobed; the lobes rounded, not acute; surface of the leaves uneven and pale green. Raceme ascending, longer than the leaves, two to four-flowered. Flowers measuring 3 to 4 inches in diameter, thick and fleshy in texture. Sepals and petals about equal, roundish oblong, concave and sessile. Ground colour pale yellow, profusely streaked with horizontal lines of cinnamon brown, the reverse being white. Lip three-lobed, furnished with a short claw; lateral lobes very small, white streaked with reddish brown at the base, auriculate; middle lobe reniform with an incurved margin. Colour yellow within, outside white. Disc at the base furnished with two erect truncate calli. It blooms during spring and early summer. Native of hot, wet, shady valleys in Sikkim, at 2000 to 3000 feet elevation. 1866.

V. undulata, Lindl. (fig. 29). Syn., *Vanda Goveze*, Hort.—This very distinct and very little known species we believe we have the pleasure to figure now, for the first time in this country. It is a very slender-growing plant, and should be a valuable addition to the cool house, as it grows naturally at considerable elevations in the forests with *Pinus Khaysiana*, where snow frequently falls. Stem about the size of a goose quill. Leaves distichous, linear-oblong, obtusely bilobed at the apex, thick and fleshy in texture, dark green above, paler below. Raceme ascending, 6 to 12 inches long, and branching. Flowers numerous. Sepals and petals about equal, linear-lanceolate,

much waved on the margins, and pure white. Lip linear-acute, also white, stained on the disc with yellow. The flower much resembles a miniature *Cœlogyne cristata*. Winter months. Upper Assam. 1875.

V. testacea, Rchb. fil. Syn., *Aërides Usightianum*, Lindl. (Bot. Mag., t. 5138); *A. testaceum*, Lindl.; *Vanda parviflora*, Lindl.—A very distinct and pretty species, which, however, at all times has been a rare plant in collections. Leaves strap-shaped, oblique and bilobed at the apex, with a small sharp point between the obtuse lobes. Raceme erect, simple, longer than the leaves. Sepals and petals about equal, ovate, and soft apricot yellow in colour. Lip three-lobed; side lobes joined to the foot of the column; middle lobe somewhat cuneate, obtuse, and again three-lobed in front, bearing several elevated ridges on the disc. Colour rich violet and lilac. Spur short and conical. June, July. Ceylon and on the Lyamally Hills, Hindostan. 1843.

V. suavis, Lindl. (fig. 30). (Bot. Mag., t. 5174). Syn., *Vanda suaveolens*, Bl.; *Vanda tricolor*, var. *suavis*, Rchb.—This superb plant is now a well known and much appreciated species. Leaves channelled, lorate or strap-shaped, gracefully recurved,



Fig. 30.—*Vanda suavis*.

oblique at the apex and toothed, deep green. Raceme lax, shorter than the leaves, bearing seven to fourteen large deliciously fragrant flowers. Sepals and petals spatulate, reversed or twisted at the base, china white, beautifully streaked and spotted on the inside with rich purple. Lip three-lobed, deep violet or purple; the lateral lobes paler, erect and rounded. April to July. Java. 1847.

V. sawis, Lindl., var. *Hrubyana*, Rchb. fil. (Flore des Serres, t. 1604-5).—General habit of the normal form, but somewhat more robust. Flowers very large. Sepals and petals twisted at the base, china white, profusely blotched and streaked with confluent spots of red and dark purple. Lip large rosy purple. April to July. Java.

On page 173 the date of introduction of *Aërides Lobbii* Ainsworth was inadvertently printed 1818; it should have been 1878.

ARAUCARIA IMBRICATA CONES.

IN answer to your correspondent "T. C." I beg to say that I have just collected 195 seeds, which I believe to be good, under an *Araucaria imbricata*, such as I have sent for your inspection. I have raised plants from the seed that has been grown here. The *Araucaria* has coned here for several years. One tree at this present time has twenty-five cones on it about the size of a large Melon. We have one tree growing clusters of male catkins all over it. I should say there are from thirty to forty clusters. Mice are very fond of the

Araucaria seed. I have not seen the *Araucaria* having the male and female variety on one tree.—EDWARD COVENY, *Gardener, Kenfield Hall, near Canterbury.*

[The seeds received are very fine, sound, and good.—EDS.]

PERHAPS it may be interesting to the numerous readers of the Journal to know that the *Araucaria* does mature its seed in this country. Here (Old Warden Park, Beds) we have two good specimens about 30 feet high and well furnished. They have been planted upwards of forty years. We have both the male and female variety. Herewith I send you a cone from the male tree; I also send you seed just shed from the female tree, which has borne seed on several occasions. The seed-bearing cones are large and globular—as large as medium-sized cocoa nuts. I would have sent you one, but they are at the top of the tree and consequently difficult to get at. These trees by some people are called "monkey puzzlers." They are not only monkey puzzlers but man puzzlers also; their prickly nature prevents any very close acquaintance.—G. R. ALLIS.

[The male cone received is 7 inches in length and 2 inches in diameter. Some of the seeds are sound and well matured.—EDS.]

BISHOP AUCKLAND HORTICULTURAL SOCIETY'S SHOW.

THIS Show was held on the 30th ult. in the beautiful grounds of Auckland Castle, kindly granted for the occasion by his Lordship the Bishop of Durham. This Society has long held a high position in the north, whilst for attendance at its shows it would rank with any Society in England, as much as £1100 having been taken in one day in shillings. For miles round the Exhibition is looked forward to as the great gala of the year, and scores of special trains enter the town heavily laden with visitors. The locale of the Show is good, whilst the promoters have always endeavoured to produce a good prize schedule; and it is much to be regretted that the last two exhibitions were held under the disadvantages of bad weather, and as a consequence the schedule this year has been curtailed.

In fruit and cut flowers perhaps the Society have never held such a successful show, and the prizes were strongly competed for; indeed the fruit was much superior to the display at the International Show at Carlisle last year. The collections were arranged in three marquees. We think it would have been much better had the marquees run parallel to each other and the ends taken out, and greater space and effect would have been given and better facilities would have been afforded for judging.

PLANTS.—These have always been both extensive and superior, but this year they fell off very much in numbers. The Society's prize of £10 for six stove and greenhouse plants only brought out two competitors. First Mr. J. Wilson, Normanby Hall, Middlesbrough, who staged fine examples of *Dipladenias amabilis* and *Brearelayana*, *Allamanda Hendersonii*, *Ericas* *Eweriana* *superba* and *obata*, which were both fresh and good, and a fine *Phenocoma prolifera* *Barnesi*; and second Mr. Noble, Woodhorn, Darlington, whose best plants were *Lapageria rosea* and *Clerodendron Balfourianum*, very good.

In the class for six handsome-foliage plants there were four competitors. The plants were remarkable for good culture, and caused the Judges some trouble in awarding the prizes. First honours eventually fell to Mr. Noble for fine and well-coloured examples of *Crotons* *Johannis* and *interruptum*, *Dasyliiron serratifolium*, *Areca Verschaffeltii*, *Yucca aloifolia* *variegata*, and *Cycas revoluta*. The second prize went to Mr. Niel Black, gardener to Mr. Pease, Southend, Darlington; and the third and fourth to Mr. Westcott, Raby Castle; and Mr. E. Lazenby, Woodside, Darlington, in the order named.

In the class for twelve stove or greenhouse plants with fine foliage, or Ferns, in pots not more than 14 inches in diameter, there was a fine display, the first prize going to Mr. Noble, who staged excellent specimens. Mr. Westcott, Raby Castle, secured the first prize for six exotic Ferns with fair examples of *Davallia Mooreana*, *Nephrolepis davallioides* (a fine plant), *Cyathea dealbata*, *Dicksonia squarrosa*, *Adiantum trapeziforme*, and *Davallia polyantha*, fine. Mr. Noble had the same position in the class for six British Ferns; and Mr. Short, Hummersknott, for six *Lycopods*, the latter very good.

Mr. Westcott secured the chief prize for two Orchids with *Vanda tricolor* and a magnificent example of *Peristeria elata* with three spikes and fifty flowers expanded. Mr. Noble had the second prize, his noteworthy plant being a fine example of *Miltonia spectabilis*.

Zonal Geraniums have long been a leading feature at Bishop Auckland. Mr. Short won the first position in the class for six plants in 10-inch pots with floriferous examples, but trained very

flat. Mr. Henry Johnston, Elmridge, Darlington, was placed second with fresher plants, but not so well flowered.

CUT FLOWERS.—For twenty-four Dahlias the first prize was £5, and such a display (eighteen stands) was forthcoming as has never before been seen at Bishop Auckland. Many of the flowers were very large but a trifle coarse; the recent rains had no doubt made them outgrow themselves. First honours were secured by Mr. Boston, Moss Spring Nurseries, Bedale; his best flowers being *Criterion*, *James Cocker*, *Henry Walton*, *Countess*, and *New President*. Messrs. Edwards & Sons, Nottingham, were second; Mr. Henry Clarke, Rodley, Leeds, third; and Mr. J. Walker, Low Fell, fourth. The first prize for twenty-four Hollyhocks, dissimilar, fell to Mr. Thompson, Newcastle, a successful exhibitor of them. The first for twenty-four Roses to Mr. H. Frettingham, Beeston, Nottingham. The second-prize collection of Messrs. R. Mack & Son, Catterick Bridge, York, contained fresher flowers, but were somewhat deficient in size. Mr. Thompson, Newcastle, secured the first prize for nine *Gladioluses* with fine spikes of good varieties.

Bouquets were numerous and excellent. Fifteen hand bouquets were exhibited, thirteen of them being good, the first prize falling to Miss Atkinson, Sunderland; the second to Mrs. Cramont, Sunderland. Bridal bouquets were nine in number, Mrs. Cramont winning the foremost place with a bouquet in which the white *Lapageria* and *Pancratiums* were used with fine effect margined with *Adiantums*.

FRUIT.—This was the greatest feature of the Show; the quality was excellent, and the entries were numerous. For a collection of eight dishes there were four competitors. The first prize fell to Mr. McIndoe, gardener to J. W. Pease, Esq., Hutton Hall, Guisborough, with fine examples of Muscat of Alexandria and Black Hamburg Grapes, large and well shouldered; *Violette Hâtive* Peaches; *Bryanston Green* Gage Plums, very large; *Moor Park* Apricots, fine; *Brunswick* Figs, *Colston Basset* Melon, and *Elruge* Nectarine. Mr. Wallace, Kirby Hall, Yorkshire, was placed second, his best dishes being *Buckland Sweetwater* and *Black Hamburg* Grapes, and *Diamond* Peaches; and Mr. Westcott third with a good collection.

For six varieties of Grapes Mr. McIndoe was again first with *Duke of Buccleuch*, very fine; *Madresfield Court*, *Barbarossa*, *Waltham Cross*, *Canon Hall* Muscat, and *Black Hamburg*. Mr. Westcott was placed second; his Grapes were excellent in colour and beautifully finished, but lacked the size of the first-prize collection. The *Raby Castle* Grapes included *Black Hamburg*, *Muscat of Alexandria*, *Foster's Seedling*, *Gros Colman*, and *Golden Champion*. Those who write and speak disparagingly of *Duke of Buccleuch* and *Golden Champion* Grapes ought to have been at Bishop Auckland, to have been satisfied of the superior quality of those Grapes. They were indeed fine and a credit to both raiser and cultivators. For two bunches of black Grapes the chief prize fell to Mr. Brown, Bishop Auckland, with *Black Hamburg*, finely coloured and of good size of berry and bunch. For two bunches of Muscats Mr. McIndoe was again first; with fine examples, and Mr. Wallace second; whilst for two bunches not *Black Hamburgs* Mr. McIndoe was first with *Madresfield Court*; and Mr. Bruce, Chorlton, Manchester, second with *Lady Downe's Seedling*. For two bunches of white Grapes, not Muscats, Mr. McIndoe was first with *Golden Champion*. Three Pines were shown, the first prize going easily to Mr. Westcott, *Raby Castle*, with a good fruit of *Charlotte Rothschild*.

Peaches were a grand display of nineteen dishes, the first prize going to Mr. Daglish, Alnrough, with, apparently, *Lord Palmerston*; Mr. McIndoe being second with *Violette Hâtive*, which we were surprised the Judges did not place first, so fine were they in size and colour. Nectarines were fairly good, the first prize going to Mr. Wrather, gardener to E. Pease, Esq. Ten dishes of Apricots were shown, twenty-one dishes of Pears, and sixteen Melons. Dessert Apples and kitchen were also numerous and excellent, The Worcester Pearmain Apples with which Mr. Witherspoon won the first prize in the dessert class were greatly admired for their splendid colour.

VEGETABLES were remarkably fine and extensively exhibited. Mr. McIndoe taking the first prize for the collection of eight varieties, and first for a collection of Potatoes; also first for a *Cucumber* named *McIndoe's Verdant Green*, a variety of much promise.

Classes were provided for those who do not employ a gardener, and contained mostly the exhibits of working men in the district. These were indeed commendable, more particularly the vegetables, which received great eulogiums from the public. The Society is arduous in endeavouring to promote a taste for gardening amongst the working classes, and the results are certainly very gratifying.

Among exhibits not for competition we noticed superior examples of *Vick's Criterion* Tomato from Mr. Jackson, Kirkleatham; also splendid pods of *Culverwell's Autumn Prolific Red*, many of them being 6 inches in length. Messrs. Little & Ballantyne, Carlisle, exhibited a valuable group of choice and rare Conifers, including their new drooping *Wellingtonia*.

The Exhibition was well managed by Mr. Hendy the Secretary,

Mr. Sibbald the Superintendent, and an active Committee, all of whom discharged their duties with much tact and courtesy.

NOTES AND GLEANINGS.

WE find from a prospectus we have received that Mr. Laxton, who is so favourably known as a hybridist and the raiser of many excellent Peas, Roses, Strawberries, Geraniums, and other garden plants, is about to establish AN EXPERIMENTAL GARDEN in which to carry on the work of hybridisation in which he has already been so successful. In his prospectus Mr. Laxton says, "The plan has already received the approval and concurrence of many scientific horticulturists, agriculturists, and botanists. The whole time, experience, judgment, zeal, and energy of Mr. Laxton, who has been so many years successfully engaged in cross-breeding, selecting, and raising new fruits, vegetables, Roses, and other flowers and plants, will be brought to bear, and as the garden will also to some extent fulfil the only practicable objects of the mis-named acclimatisation societies of other countries, as applied to the vegetable kingdom, it is confidently anticipated that the proposal will meet not only with the approbation but the material support of all interested. It is desired as far as possible to make the garden self-supporting; but as experiments in horticulture and agriculture are always costly, and, although frequently precarious in their results, generally conduce somewhat towards the public weal, it will hardly be considered inappropriate that the means should be at least partly provided by the public. For the purpose of successfully carrying out the plan endeavours are being made to secure two or three acres of good staple garden land with a limited amount of glass in a central and sheltered situation, for which a moderate capital and some choice stock will be necessary. Donations in furtherance of the objects in view will be received by Mr. Thomas Laxton, 53, Tavistock Street, Bedford, who hopes also, so soon as a suitable site can be procured, to receive contributions of plants, stock, &c. The terms of subscription with regulations and full particulars will shortly be issued. The privileges to be accorded to subscribers will include a priority in the distribution of all novelties raised at or secured by the establishment, and a right to a copy of the reports of the work carried on in the garden, as published from time to time, and to a share of the surplus plants, seeds, &c." We wish Mr. Laxton every success, and we have no doubt that if he has the opportunity he will add very considerably to his other achievements in this branch of horticulture.

— WE are glad to learn that the ISLE OF THANET FLOWER SHOW, held on the 31st ult. in the grounds of Bromstone Park, kindly lent by G. E. Hannan, Esq., was a successful one, and was attended by a great throng of visitors. Plants, flowers, fruit, and vegetables were alike good and creditable to the several exhibitors. The arrangements were complete and excellent, and reflected credit on Mr. C. D. Smith, the Honorary Secretary, and the other officials of the Show.

— THE late excursion of the NORTHAMPTON NATURAL HISTORY SOCIETY to Rothwell, Rushton, and Lampport proved, says the "Midland Counties Naturalist," a very enjoyable one. The party first visited the gardens and grounds of Rushton House, in which is situated the Triangular Lodge where the conspirators met to concoct the gunpowder plot. The wilderness used to be the habitat of the Fly Orchis, but this was searched for in vain. Rothwell Church and Market House were then visited, the *miserere* seats in the former being very curious. After a pleasant drive through the Harrington Valley and Orton to Foxhall, near which occurs the almost sole piece of bogland left in Northants, the botanical section eagerly searched over this ground, which yielded among other plants *Pinguicula vulgaris*, *Eriophorum angustifolium*, *Carex pulicaris*,* *C. stellulata*,* *C. flava*,* *C. fulva*,* *Carduus pratensis*, *Pedicularis palustris*, *Pimpinella magna*, *Gymnadenia conopsea*, *Orchis latifolia*, *Ophioglossum vulgatum*, *Molinia caerulea*,* *Triodia decumbens*,* *Valeriana dioica*, and a very rare plant, *Blismus compressus*,* In the hedgerows nearer Mosely Wood *Rosa tomentosa*, *R. micrantha*, and *R. Doniana* occur. Rejoining the photographic section at Foxhall the party proceeded to Lampport, noticing on the way *Festuca Myurus*. At Lampport the grounds of Sir Charles Isham afforded some pleasant rambles, the rockeries being covered with some interesting alpine plants. The rectory pond is said by Rev. J. M. Berkeley to yield *Acorus calamus*. [Plants marked thus (*) are not included in "Topographical Botany."]

— A CORRESPONDENT writes:—"At this season of the

year the labour of sweeping becomes a serious matter where there is a large garden. Can you inform me whether there is any MACHINE FOR SWEEPING LAWNS AND PATHS, which would either gather up the rubbish as the mowing machine does, or even sweep it into lines as the machine used in the London streets does?" [Is not this worthy the attention of some enterprising horticultural engineer?—EDS. J. OF H.]

— IN another column Mr. Luckhurst adduces examples showing the importance of SHELTER FOR FRUIT TREES. We may add another instance that recently came under our notice of a splendid crop of Apples, the result in a great measure of a sheltering belt of forest trees on the north side of the orchard. This fruitful young orchard is at Wimbledon, and belongs to Sir Henry W. Peek. Many of the Apple trees are crowded with fruit, and afford a striking contrast to thousands of trees that in other places are barren. Since so much is written on the pruning of trees it may be mentioned that for two years the trees referred to have not been pruned at all, unless the removal of an occasional branch in its entirety can be termed pruning, and the trees are as handsome in form and fruitful in character as can be desired.

— A MEETING of the creditors of MESSRS. W. ROLLISSON AND SONS of Tooting was held on the 27th ult. at No. 8, Old Jewry, E.C., when a trustee was appointed. The meeting was largely attended, and at the close the chairman remarked that much sympathy had been evinced by the creditors present for Messrs. Rollisson whose business is still being carried on, and it is confidently hoped that an arrangement may be arrived at whereby the uninterrupted continuance of the firm, which has now existed for nearly one hundred years, will be ensured.

— IT is with much regret we announce the DEATH OF MRS. OSBORN of the Fulham Nursery, widow of the late Mr. Thomas Osborn, and mother of Mr. Robert Osborn, who is by this sad occurrence left with the sole responsibility of the business. Mrs. Osborn died on Friday last, the 30th of August, at the age of sixty-one, after having for the last six months been entirely confined to the house.

NOTES ON VILLA AND SUBURBAN GARDENING.

THE latter half of August has been excessively wet in the neighbourhood of London, if not pretty general throughout Europe. The barometer has risen during the past few days, which gives us hopes of a change to drier weather which is much needed. Flower beds are not so gay as we are wont to see them on the 1st of September. Geraniums have grown coarse, while many other plants are looking somewhat weedy. It has been a fine time for the kitchen garden crops, and the winter supply of vegetables has made rapid progress; the only drawback is that the heavy rains have in many places, especially on hillsides, washed deep holes in garden paths, involving extra labour in levelling and rolling.

The various seeds that were advised in a former calendar to be sown have germinated sufficiently, so that there promises to be an abundance of every necessary to carry us through the winter. Myriads of seedling weeds have also made their appearance, these we shall take an opportunity of destroying by running the hoe through them on the first dry and warm days. The spring-sown Onions are quite ripe and have been pulled and laid to dry. As soon as sufficiently dry they will be strung together in small quantities and hung up. We know of no better way of keeping them, for frost and dry cold winds do not appear to injure them. Look over Potatoes that have recently been taken up, for we fear there will be loud complaints about the disease; after lifting we find several diseased tubers amongst ours. Make the last sowing of Lettuce for this season of the Bath or Brown Cos to withstand the winter, which will give tender and crisp Lettuces next May, and prick-out earlier crops a few inches apart on a warm rich border, that they may be lifted in the course of a few weeks and placed under protection in frames, &c. Thin Turnips before they grow overcrowded. These ought to be plentiful and good this autumn; the heavy rains have prevented the fly attacking them as much as ordinarily.

The propagation of next season's bedding stock must now for the present absorb our attention, and the sooner the cuttings are now taken off and inserted the greater is the chance of success. Geraniums of all kinds are easily detached, but care should be taken not to disfigure the beds. It is a very good plan to allow the cuttings of Geraniums after they have been made to lay for a few hours to heal the wounds caused by separation. By exposure for a short time the sap partially dries up, and a callus is the quicker formed with less risk of decaying. Place the cuttings of Geraniums thickly in shallow boxes, which are usually made from 2 to 3 feet long, 9 inches to a foot wide, and from 4 to

6 inches deep. In this manner great quantities can be housed during the winter, and can be potted-off singly during February; but where there are no boxes, pots of all the smaller sizes answer equally well. Five cuttings may be placed in a 4-inch pot, a few more in the next size, and so on. After rooting takes place very little watering should be given them or they will damp-off.

Cuttings inserted thickly now of Coleuses, Iresines, and the various Alternantheras will, if placed in a warm close temperature, strike freely and make a stock to supply abundance of cuttings during spring, which is the best time to propagate the summer supply of these fine-foliaged plants. Heliotropes, Ageratums, Petunias, and Verbenas may be all increased in the same way, allowing plenty of air when they are found to be established. It is too soon yet to insert cuttings of Calceolarias. Notes on them will appear later on.

Repot show and fancy Pelargoniums that have their growths fairly started, into pots a size smaller. In order to do this the ball of old soil should be shaken out and some of the coarse rough roots considerably reduced, using a good staple loam with a portion of decayed hotbed manure, leaf soil, and silver sand. Give Cinerarias another shift, the forwardest may be placed in their blooming pots for producing an early display. Chrysanthemums are growing fast, and will require the help of liquid manure to maintain the foliage of those plants that are root-bound and have exhausted the soil. The bloom buds are also to be seen, and we have commenced "setting" the blooms, or in other words dis-budding. On examination a flower bud may be seen in the midst of three or four young growths all apparently about to start into growth at one time. If these growths are removed with the point of a knife the bud will swell and eventually make a large flower, but if the growths are left the central buds perish and the flowers from the surrounding growths are much smaller and later. Make secure all growths to prevent the winds from injuring them, and attend daily to the various modes of training the specimens.

The stock of Dutch bulbs may now be ordered. After potting place them in the open ground under a cover of a few inches of cocoa-nut fibre. By no means place them under stages or where there is any drip, which will cause them to speedily decay. In vineries that have Grapes fully ripe and hanging it will be necessary to watch for decaying berries. It is almost impossible with the late damp weather day after day to keep the berries from moulding; when they are seen remove them promptly before they do injury to others.

Many of our earliest outdoor fruits now require harvesting. The wasps and large blue flies are very troublesome, making small holes in the sweetest varieties, which allow the rains to collect and cause decay. All fruit should be carefully hand-picked and carried to the fruit room, those damaged to be placed for immediate use. Of Pears we have a fair crop, and have gathered Williams' Bon Chrétien, which is always best gathered at two or three different times. By this plan the supply of Pears lasts longer. Peaches and Nectarines on walls are ripe and must be gathered daily for the table. Any fruit not fully exposed to the light should have the leaves pulled away from it, and the trees themselves should be kept tolerably thin and free from breastwood.

WORK FOR THE WEEK.

KITCHEN GARDEN.

WHERE Lettuces are required very early in spring a warm situation should be chosen with a southern aspect; the ground should be well drained and the soil light, rich, and firm. The seed should be sown in rows 9 inches apart in such a portion of ground as can be covered with frames when the weather sets in cold and wet. The best varieties for this sowing are Early Paris Market and Commodore Nutt, a compact very close-hearted kind, which may be sown in rows 6 inches apart. A bed of Lettuces should be sown in a sheltered situation at the close of the first or beginning of the second week in this month, for standing the winter and for transplanting in spring. Plant at once a good breadth of early Cabbages as advised in a former calendar. Sow a little more Cauliflower seed about the 7th to the 10th inst., which will afford plants for transplanting into frames or in front of a south wall in November. Plant at the foot of walls with south or east aspects Endive from the latest sowings. Sow a good breadth of Radishes, none being better than Wood's Frame and French Breakfast. From the moisture and comparative coolness of the late summer and autumn, Radishes sown now are very tender and good and generally esteemed. Plant out a good breadth of Lettuces from the July sowings. If the autumn be mild they will come in useful. Tie-up Endive and Lettuce in dry weather, and earth-up Celery, but afford moderate earthing only to crops that will not be required for use for some time yet, as earthing a little at a time is not calculated to promote the vigour of the plants. A dusting of the plants with soot early in the morning whilst the leaves are wet with dew will do much to ward off the fly, to invigorate the plants, and to drive away worms and slugs. Crops of winter Spinach must not be left too long without thinning, doing it in the first instance to 6 inches apart, and ultimately to

12 inches, every other plant being drawn at the second thinning and the leaves picked for use, which will save gathering from the permanent plants for some time. Keep the surface soil well stirred in order to promote free growth and cleanliness. The earliest crops of autumn Onions should be thinned to 3 inches distance apart in the rows, and every alternate plant may be afterwards drawn for spring use. A sowing may yet be made of the Tripoli Onions, and if bulbs are wanted early in summer make a sowing of the Queen in a warm situation but open, and it will be ready for use long before the Tripolis.

HARDY FRUIT GARDEN.

Fruit trees this season have required more than the usual attention in stopping the shoots, owing in a measure to the lightness of crop and to the prevalence of rains. Late summer and autumn growths must be restrained, as they only retard the ripening of the fruit and impair the vigour of the buds for future bearing. Let in, therefore, plenty of light by stopping back the laterals to one bud and the extensions of pyramids to about three or four; but if they have formed the terminal bud at a not greater distance than six or eight joints from the last stopping, and extension being wanted, do not stop them. The extension of Pears, Plums, and those fruit trees against walls producing their fruit upon spurs should be trained-in their full length if there be space, keeping the laterals closely stopped at one leaf. Peaches and Nectarines will still require attention in shortening the wood to about 12 inches for next year's bearing, laterals being pinched at the first leaf and removing superfluous wood altogether. Any fruit overhung by foliage must have the latter turned aside or be shortened so as to expose the fruit to light and air, or there will be a deficiency of colour and flavour. Cut out this year's bearing wood as the fruit is cleared. Those contemplating the lifting of unfruitful or unhealthy trees in autumn to renew old worn-out trees or the planting of new walls, should at once set about the preparation of compost for the purpose. Good loam neither heavy nor light taken from a pasture 4 to 6 inches thick and stacked in rather narrow ridges will with an inch layer of old mortar rubbish between each layer of turves, and if marl can be had an equal thickness to that of lime rubbish, form an admirable compost for all kinds of fruit trees. The making of new borders should be at once proceeded with so as to have the soil ameliorated before the time for planting arrives. The border should be well drained so as to prevent water lodging nearer the surface than 3 feet 6 inches, better 4 feet, and if the subsoil be wet and likely to induce late growths it will be more economical to concrete the bottom of the border than to allow the roots to pass into it, for no attention to pinching and manipulation of the heads of the trees will induce fruitfulness, or only for a short time, when the trees are unfavourably circumstanced at the roots. Rubble should be placed 9 inches to 12 inches deep for drainage, and over this place 2 feet 6 inches depth of compost. In some soils drainage only needs to be done, with the trenching of the ground 2 to 3 feet deep, but a little care bestowed upon the preparation of the border often saves much after disappointment and expense.

Strawberries that are to be kept for future crops should now have all runners, and such of the old leaves that come readily away with them, cut off, but avoid the weakening process of divesting the stools of foliage. The stools with their healthful foliage should be about 2 feet distance apart, or the stronger growers 2 feet 6 inches. After clearing away all weeds, mulch at once with any partially decayed manure not less than an inch thick. The removal of the runners will admit light and air to the crowns, and the mulching will keep the soil moist, bringing the roots to the surface, which assist the formation of bold crowns. New plantations must have the runners removed and all weeds kept under, they, too, being the better of a mulch of manure now instead of later in the season, when it can contribute little to the plants' advantage, but given now it aids in the formation of crowns. There is yet time to plant runners with a prospect of fruit next season, but those well rooted in pots must be selected, and the soil made firm about the balls. Some defer planting until spring. In that case the runners should be planted out now rather thickly in nursery beds, and have water until established.

Strawberries in pots for forcing will now be well established and require liberal supplies of water. If the plants grow vigorously do not give them liquid manure, but those that are weakly afford liquid manure twice a week. Remove all runners as they show, and loosen the surface of the soil near the sides of the pots, so as more thoroughly to insure the moistening of the ball. Runners well established in small pots may yet be potted for late forcing. For particulars of potting see former calendars. As the plants grow—increase in foliage—set the pots wider apart. If red spider show itself hold the plants inverted separately with one hand, and with the other dust the under side of the leaves with soot from a dredger.

FLOWER GARDEN.

Although the summer has been generally favourable for the growth of summer bedders, herbaceous plants have been and still are more than ordinarily attractive. At one time there was a dread of the modern system of flower gardening pushing a most

interesting and beautiful class of plants out of cultivation; but there is now nothing to fear on that score. Herbaceous and alpine plants in the mixed border are more appreciated than ever. Such a border should include all flowers, hardy or otherwise, available for outdoor decoration, for, apart from the interest of mixed collections, a variety of flowers is afforded for cutting. The herbaceous or mixed border to the real lover of flowers is far more satisfying (for at almost every step something of fresh interest and beauty reveals itself), than masses of colour, brilliant and effective as they may be, which are taken in at a glance, and producing little more than a momentary pleasure.

There are now several distinct styles of flower garden decoration—namely, parterre, in which the beds and their adjuncts combine to form a picture of beauty by the employment of flowering plants; subtropical, or that style admitting of bold-foliage plants disposed in groups with isolated specimens, than which no style in suitable situations contributes more to gardenesque effect. The latest style—carpet bedding, is perhaps the most popular, and when well done is very effective. That it is a step in the right direction is best inferred from the fact of its increasing in public favour, not the least of its attractions being that an otherwise meaningless bed may by internal tracery be transformed into an object of art in design and beauty. There are also Italian gardens—a combination of device in Box, grass, gravel, statuary, vase, fountain, formal shrubs and plants; and there is the Rose garden, essentially English, as is also the mixed garden, which two are best calculated to supply the requirements for flowers of a majority of the owners of private gardens. We introduce this subject now as the time is near when alterations are usually made, and often without consideration being given to the purpose they are intended to serve. If a garden is intended to afford objects of interest in variety and succession then we have no hesitation in pronouncing in favour of the mixed style—flowering, evergreen, and deciduous shrubs, borders of herbaceous, alpine, and bulbous plants, with masses of the choicer or statelier and profuse-flowering plants, such as Pansies and Violas, Carnations, Dahlias, and Roses. If a grand picture of limited duration is coveted, then the other styles come in for their share of consideration.

The propagation of the various kinds of bedding plants must be pushed on as fast as possible, so as to have them well established before winter. If a sufficient stock of *Pelargoniums* be not yet raised lose no time in inserting cuttings—four in a 4-inch pot; also secure a sufficient quantity of *Heliotropes*, *Verbenas*, *Ageratums*, *Lobelias*, *Iresines*, *Mesembryanthemum cordifolium* variegatum, &c. These need not be propagated in great numbers, as they strike readily in spring; but a sufficient quantity of store pots should be secured so as to supply the requisite cuttings in spring.

Annuals for Spring-Flowering.—Sow now seeds of the following annuals in moderately rich light soil, either where they are to remain for flowering or for transplanting:—Sweet Sultan, purple, white, and yellow, and Cornflower (*Centaurea Cyanus*) for an early bloom of those of those desirable flowers for cutting; also *Silenes*, Sweet Alyssum, *Eschscholtzias*, *Virginian Stocks*, *Saponarias*, *Nemophilas*, *Calandrinia umbellata*, *Collinsias*, *Candytufts*, *Gillias*, *Kaulfussias*, *Lasthenia californica*, and *Erysimums*.

The work of keeping gardens neat is now considerable, as the wet has expedited the growth of weeds, which must be kept under, and trees are casting more or less of their foliage, which must be swept up frequently so as to keep up a good appearance as long as possible. Pick off bad flowers and leaves from the plants in beds, keeping the lines distinct by stopping, &c., running the mowing machine over the grass frequently, keeping the edgings neatly cut, and rolling the walks well, which go a long way to make a place enjoyable. Complete the clipping of Yew and Privet screens; and any *Arbor-Vitæ*s, *Irish Yews*, *Junipers*, or others of the *Coniferae* that are liable to open in the middle tie up to prevent breakages and to maintain the symmetry of the specimens.

PLANT HOUSES.

Greenhouse.—Flowers will soon become scarce outdoors; provision must therefore be made to meet the demand for cut flowers, &c., by a supply of suitable plants under glass. *Heliotropes* if grown as advised will be in good growth and advanced for flowering, but all blooms showing before the middle of the month should be pinched-out, and the plants well supplied with liquid manure.

Mignonette must have every encouragement in keeping it duly watered, and shifting the plants into larger pots as they require it. They should be placed under glass before heavy rains occur, keeping them near the glass, affording neat supports, to which the shoots must be secured as they are liable to snap. Keep a sharp look-out for green aphids, and at once destroy it with tobacco water, or fumigate, but it must be done moderately or the foliage will be scorched. *Mignonette* sown in August must be thinned to three or five plants in a pot, and be kept near the glass and not overwatered. For affording a succession of bloom seed may yet be sown in 3-inch pots, duly thinning the plants when large enough to handle, and when the roots are matting around the sides of the pot shift into 6-inch pots. They are very useful in spring and early summer; but to have *Mignonette* in quantity

a pit should be planted with healthy plants from the August sowing, turning them out with the balls entire in a compost of turfy loam with a fourth part of well-decayed manure or leaf soil, and an eighth part in equal proportions of old mortar rubbish and pieces of charcoal not larger than a hazel nut, the surface being 18 to 24 inches from the glass, planting about 15 inches apart every way. There must be pipes for heating so as to maintain a temperature of 50° to 45°. An immense quantity of spikes may be cut through the winter until summer, keeping the spikes closely cut, as seeding soon ruins the plants. Air should be afforded abundantly in all favourable weather.

Tree Carnations should have all flowers removed and duly supplied with water, affording them weak liquid manure occasionally, and place them in a position where they will receive all the light possible, as upon a sturdy solidified growth depends their suitability for winter flowering. Pinks, too, intended for forcing must be encouraged to complete the growth and to firm it by full exposure. Epiphyllums are very useful and should have all the light possible, so as to ripen the growth, affording water only to keep the parts plump. They will flower satisfactorily in a greenhouse, but are the better of an intermediate house or a little warmth when making fresh growth.

Clematises.—These are fine when grown in pots for decoration, coming into flower with little forcing. Some of the best are Miss Bateman, The Queen, Vesta, Lucie Lemoine, Henry, Willison, Lord Lonsborough, Lady Lonsborough, Stella, Fair Rosamond, Countess of Lovelace, and Albert Victor. They should have a warm situation with a view to the thorough ripening of the wood, and though they must not be neglected for water too much is pernicious; therefore in very wet weather lay the pots on their sides.

Daphne indica will have completed the growth and must not be over-watered, which is one of the chief reasons why this plant is seldom seen in good condition. The freest-flowering plants are grafted, but cuttings of 4 to 6 inches in length may now be inserted singly in small pots in sandy loam and peat, placing them in a house with a temperature of 50° to 55° until they have formed a good callus, and then in a bottom heat of 75°, where they will root freely.

Hardwooded plants placed outdoors must not be allowed to remain exposed to heavy rains for any length of time, or the soil will be so saturated as to jeopardise the well-being of the plants. In cold localities it is not safe to trust them to the tender mercy of the weather after the middle of the month; indeed if the weather be wet it is best to place them under cover without further delay, as the tender-rooted kinds often perish from excessive wet.

TRADE CATALOGUES RECEIVED.

Charles Turner, Royal Nurseries, Slough.—*Catalogue of Bulbs, Seeds, and Strawberries.*

Thomas S. Ware, Hale Farm Nurseries, Tottenham.—*A.B.C. Bulb Guide and Select List of Perennials.*

Sir James W. Mackey, 23, Upper Sackville Street, Dublin.—*Descriptive Catalogue of Dutch Flower Roots.*

Osborn & Sons, Fulham.—*Catalogue of Hyacinths, Tulips, and other Choice Flowers.*

James Cocker & Sons, 82, Union Street, Aberdeen.—*Descriptive Catalogue of Dutch Flower Roots.*

Louis Van Houtte, Royal Nursery, Ghent, Belgium.—*Catalogue of Azaleas, Camellias, Rhododendrons, &c.*

J. Linden, Ghent, Belgium.—*Catalogue of Azaleas, Camellias, Rhododendrons, Palms, &c.*

James Vick, Rochester, N.Y.—*Illustrated Floral Guide, and Lists of Bulbs and Plants.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense. Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (*M. J. T.*).—The "Journal of Botany," published by Hardwicke and Bogue.

DOUBLE CARNATIONS (*P. C.*).—We can only sympathise with you. Two double plants out of a hundred is a small per-centage for 2s. 6d., and after the trouble of raising them you have good reason to be disappointed.

DISCOLOURED LEAVES (*Flora*).—They are injured by thrips. Our correspondent wishes to know how green frogs are to be kept in winter.

PEACH TREES DISEASED (*A Subscriber*).—The trees are attacked with red spider. You must syringe the foliage frequently. We have known it effectually cured by standing saucers of ammoniacal liquor from the gas-works in various parts of the house.

BLACK MILDEW ON ROSES (*R. G. M.*).—We know of no application better than Fowler's insecticide or Gishurst compound for the "black blotch." The cause of it is generally poverty of soil or drought. A liberal supply of liquid manure will probably prevent its appearance.

BURNT EARTH FOR ROSES (*A Lover of Rose Shows*).—Burnt earth is an excellent addition to heavy soils. Some kind of "ballast" is burnt earth, but not all. "WYLD SAVAGE" has not tried the artificial manures referred to for the same reason as the one you submit—namely, not being able to obtain them in small quantities. If you roughly dig your soil, exposing it thoroughly to the influence of air and frost, it will become partially pulverised, and then if you can place a little lighter soil around the roots of the Roses when planted—a shovelful or two to each will do to expedite the emission of fresh roots—we think you will succeed in your object. A compost of burnt earth, decayed vegetable matter, and a liberal admixture of soot, say a quarter of a peck to each barrowful of soil, would be very suitable for the purpose recommended.

SCHIZOSTYLIS COCCINEA CULTURE (*C. K.*).—The plants should be planted in spring or early summer in good soil in an open but not highly exposed position in the kitchen garden, and in the autumn when the flower spikes appear pot the plants and place them in a light greenhouse, where they will continue flowering until Christmas. You have kept the Cyclamens too dry; they require a partial rest after flowering, but should always have the soil sufficiently moist to keep the roots and corns fresh.

FRUIT TREES FOR NORTH WALL (*W. R.*).—The Morello Cherry is the most suitable, but such Cherries as May Duke and Bigarreau Napoleon Cherries do well and afford a good succession. *Pears*: Jargonelle, Citron des Carmes, Williams' Bon Chrétien, and Marie Louise. *Plums*: Victoria, Jefferson, White Magnum Bonum, and Blue Perdrigon are all suitable.

GOOSEBERRIES FOR WALL (*M. J. Read*).—They succeed quite well as well as Currants. The best sorts for dessert are—*Reds*: Wilmot's Early Red, Scotch Nutmeg, Champagne, and Warrington. *Yellows*: Yellow Smith, Yellow Champagne, Broom Girl, Rumbullion, and Leader. *Whites*: Snowball, Crystal, White Champagne, Bright Venus, and Lady Leicester. *Greens*: Fitmaston Green Gage, Green Walnut, and Green Gascoigne.

RAISING FERNS FROM SPORES (*A Constant Reader*).—Drain a pot or pan well, place over the drainage the rough of the compost (sandy peat sifted), filling to within an inch of the rim with the sifted peat, mixing with the peat on the surface an equal quantity of silver sand, making the surface even and moderately firm. Afford a good watering, and when the soil has settled down brush the spores from the Fern fronds with the hand over the surface of the pot or pan and cover with a pane of glass, resting upon the rim so as to entirely cover it. Place in a cool house or frame for hardy kinds, a greenhouse or stove for exotics on a damp bottom, shaded from bright sun, and never allow the soil to become dry, but avoid making it sodden. In the course of about six weeks the surface will become green, that is when the spores vegetate; the pane of glass should then be tilted a little on one side and removed altogether when the fronds reach the glass.

STEPHANOTIS FLORIBUNDA (*Carolus*).—The cutting-off of all the foliage of your Stephanotis was a mistake, which, however, may not prove fatal if the wood is still alive and plump. Give water with care and moderation now and till the end of the year, keeping the plant in a temperature of from 50° to 55°. Prune in January, shortening the stout growth and cutting out all weak shoots, and by the end of that month or in February greater warmth of temperature and a free use of the syringe should induce an abundant free new growth, and when the plant is growing freely an occasional dose of liquid manure will do much good. When in bloom and throughout summer it may be removed to a warm greenhouse.

RHYNCHOSPERMUM JASMINOIDES NOT FLOWERING (*Idem*).—Overpotting is probably the chief cause of your plant not flowering. Small pots, well-ripened wood, and a moderate temperature, are three important points in the culture of this plant. Take your plant out of the hot-house at once to a sunny airy position in a greenhouse or orchard house, give only enough water from the present time till March to keep the foliage healthy, and keep the plant in the greenhouse where the usual winter temperature of 40° to 45° is maintained, thus letting the winter be a period of complete rest. In March cut off any bare old growth, and thin any that is crowded, shortening the remainder to induce a plentiful growth of young shoots, at the ends of which the flowers should appear. Just as growth begins shake out the plant from its large pot and examine the roots; if they are crowded in the soil and the drainage is good replace in the same pot, but if there is much soil without roots then remove it and repot in a size or two less, picking as much of the old sour soil from among the roots as possible, ramming hard some fresh sweet soil around the ball. As the growth makes progress give more water, but do not remove the plant from the greenhouse till the flowers fade, then turn it out of doors, standing the pot upon a bed of coal ashes in any open yet shaded nook, and keep it there till the autumn. Withhold water almost entirely from your Night-blooming Cereus during winter, take especial care it is not overpotted, and with a somewhat lively spring temperature you will obtain flowers.

SELECT CHERRIES FOR ESPALIERS (*Lady C. T.*).—The five best sorts of Cherries to be trained as espaliers for a supply of fruit from the middle of July onwards into August are Empress Eugénie, Governor Wood, Reine Hortense, Duchesse de Pallua, and Florence. The position you have chosen for the trees is an admirable one, well calculated to screen the blossom from cold wind.

LATE STRAWBERRY (*Idem*).—Frogmore Late Pine is an excellent late sort. A useful way to prolong the period of obtaining ripe fruit is to plant one bed in a position that is fully exposed to the sun, and another in the shade of a tree or building. By planting beneath the boughs of a huge old standard Pear tree we have been able to keep up our supply of fruit until the middle of August.

TRANSPLANTING CHRYSANTHEMUMS IN AUTUMN (*Idem*).—This may be done forthwith, or at any time till the plants are in full bloom. The latter period is usually thought preferable, because it admits of the summer flowers being kept as long as they are ornamental. If, however, your border can be spared then plant at once in dull weather, and thus accelerate the development of the flowers.

GLAZED POTS FOR WINDOW PLANTS (*J. D.*).—Provided the pots are well drained, and care is exercised in watering the plants so as to prevent the soil being soddened, plants will thrive well in glazed pots.

ROOF FOR A CONSERVATORY (*R. J. S.*).—If you use rough plate glass you can have it of any strength, and it will not injure the plants in the least.

It has often been recommended for ordinary glazing because of its strength and its prevention of scorching. You can use a gas stove in your conservatory provided you have a pipe communicating outside to carry off the vapours generated in combustion.

ORANGE TREE CASTING ITS FRUIT (*Miss W.*).—It usually arises from imperfectly ripened wood, the plants growing too vigorously. Afford them a light airy position in the warmest part of the house, and give no more water than to keep the foliage fresh. When the tree is starting into growth and flower afford water liberally, but avoid making the soil sodden. When in blossom impregnate the flowers. We think from the one planted out not flowering that the plants are too much shaded, and the atmosphere too cold and moist to ensure the ripening of the wood.

MALFORMED APPLE (*A. T. Waters*).—This is not new, although not common. It occasionally happens that the growing axis of a shoot is continued through a fruit or a flower, and the specimen you have sent is one of these.

DESTROYING BINDWEED (*R. B. B.*).—This is one of the most difficult of all weeds to eradicate. We know of no other means of keeping it in check than by the constant and persistent application of the hoe. If you never permit the plant to grow more than a quarter of an inch through the soil the roots will be gradually weakened, and the labour of hoeing will diminish yearly. The great point to aim at is never to allow it to form leaves; if you can manage that the roots will decay.

READ'S BOILER (*D. D. Cardiff*).—This useful boiler is best set outside of the house; if inside we fear you would experience some inconvenience by the dust and dirt that are inseparable from the management of the fire.

SCREEN OF TREES (—).—We should be glad to assist you, but we cannot say what the screen of trees is before the house at Herne Hill. Perhaps it is Black Poplar or Oriental Plane. Send a leaf if you can.

STRAWBERRIES AND RHUBARB (*Ecce*).—Two useful Strawberries are Vicomtesse Hericart de Thury and President. Let the Rhubarb remain until the leaves decay, then remove them and replant as you propose. The heavy showers to which your Fuchsias have been subjected are quite sufficient to account for the tubes of the white-sepal variety splitting, an evil to which it is peculiarly subject.

CLUB ROOT (*R. T.*).—The parent weevil is of a dusky black colour, with the breast spotted with white, and the length of the body one line and two-thirds. The ambury of the Turnip and Cabbage usually attacks these crops when grown for successive years on the same soil. This is precisely what might be expected, for, where the parent insect always deposits her eggs, some of these embryo ravages are to be expected. The ambury is most frequently observed in dry seasons. This is also what might be anticipated; for insects that inhabit the earth just beneath its surface are always restricted and checked in their movements by its abounding in moisture. Moreover, the plants actually affected by the ambury are more able to contend against the injury inflicted by the larva of the weevil by the same copious supply. Charcoal dust spread about half an inch deep upon the surface, and just mixed with it by the point of a spade, it is said prevents the occurrence of this disease. Soot, we have reason to believe from a slight experience, is as effectual as charcoal dust.

GROWING FIGS AND GRAPES TOGETHER (*H. E. W.*).—They may be grown in the same house, the roots of the Vines being a good distance apart, and the shoots trained rather thinly so as to admit light to the Figs beneath, which would need to be grown in pots, and then considerable cultural skill is required to secure satisfactory crops of both Figs and Grapes. We advise, in case of your deciding to grow both in the same house, to restrict the Vines to the larger side of the span, and have the Figs at the back trained to a trellis against the wall, restricting the roots to a border about 2 feet in width, and not allow anything upon the smaller part of the span. The house would be most satisfactorily and economically heated by hot-water pipes and a stove boiler fixed in a shed behind the house. Two rows of 4-inch pipes along the front and across one end would afford all the heat required; artificial heat, however, is not necessary to secure a crop of Grapes or Vines unless you require them early, and to secure two crops of Figs in a season.

SHRUB NOT FLOWERING (—).—The spray is not an Andromeda but, we think, an Arbutus, probably *A. laurifolia*, which does not flower until the plants attain a large size. Probably cutting the roots at a distance of 2 feet from the stem would check the growth and tend to earlier flowering. Judging from the spray forwarded us the shrub must be very handsome from foliage alone, and we should not be disposed to interfere with it in any way, allowing it to take its own time as to flowering, patience in such cases being often well rewarded.

VALLOTA PURPUREA AND VAR. EXIMEA (*A. Boyle*).—The dry bulbs should not have been kept without water until May, but ought to have been potted and kept moist, and placed in bottom heat in February or March to induce root-action, and that secured they would have pushed foliage strongly, which ought not to have been much advanced before the pots were gradually withdrawn from the hotbed and placed in a light airy position in a greenhouse, and kept well supplied with water until the growth was complete, and then enough to maintain the foliage fresh. The plant in the open ground we should now take up and pot. Turfy loam with a fifth of well-decayed manure will grow these plants perfectly, but we gave our plants a dash of buffalo horn manure at the last potting, and they evidently relish it, being finer than they ever were before. Only a twentieth part was used to turfy loam. Our plants are potted so that the base of the older bulbs only is covered with soil; but as we remove the offsets but seldom, only for purposes of increase, many of the bulbs are covered with soil, others about half, and some almost clear of it, and all do well. We prefer them with the base of the bulb covered with soil. We did not receive your Campanula.

ROSE FROM CANNES (*C. W. Cox*).—We are rather at a loss to name the Rose. It is not exactly Ophire though much like it. It much resembles an old Rose called Duchess of Mecklenburg.

NAMES OF FRUITS (*Thomas Holman*).—Orange Mispique. (*Lewins*).—Sweet Lading. (*Knutsford Subscriber*).—The Pear is Madame Treve, the Apple we do not know. (*W. H. W.*).—We will name your fruit next week. There is nothing the matter with the Grapes; we consider them very good to have been grown in a greenhouse, where, of course, they could not receive much artificial heat.

NAMES OF PLANTS (*C. K.*).—Flower apparently *Schizostylis coccinea*. Fern, *Nephrodium decompositum* var. *glabellum*. (*Triceps*).—We cannot name plants from leaves only. 1 is not a Eucalyptus, and 2 is an *Acacia* of

some sort, but we cannot tell which it is from the leaf, as the genus is a very numerous one. (*W. Hilloak*).—1, *Hieracium sylvaticum*; 2, *Stachys palustris*. (*John Davis*).—An *Epilobium*, but the specimen is insufficient to enable us to determine it. (*Edward Long*).—*Calceolaria scabiosaeifolia*. (*Jeune*).—1, *Berberis vulgaris*; 2, *Anthemis Cotula*; 3, *Eupatorium odoratissimum*. (*Conan*).—Your Lily is from Japan, and is the new variety of *Thunbergianum* which has recently been called *Batemanæ*. It is very beautiful and, we believe, very scarce.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

THE CULTIVATION OF WINTER BEANS.

THE cultivation of winter beans is altogether so different from that of spring beans that we propose to treat of it separately, and this not only applies to the beans, but to the land upon which they are or may be most advantageously grown. Spring beans are identified in their growth with strong heavy land only, but not so with winter beans, because almost any loamy land in good tilth and cultivation will produce them in great abundance in favourable seasons. There is also another striking difference between winter and spring beans—the latter are far more subject to blight than the former, and are consequently a more speculative crop; and when we consider the variety of soils upon which the winter beans may be profitably grown, it in our estimation places them far in advance of spring beans for culture on the home farm. We shall have to refer to their cultivation under varying circumstances, not only as regards their growth as an individual crop, but also as a double crop in connection with other pulse, and also as a crop with vegetable produce in intermediate culture.

Although the winter bean may be grown with success upon dry loamy land with various subsoils, yet it is a question of climate as well as soil, for we find that the western and mid-land counties being subject in ordinary seasons to a greater rainfall than the eastern and southern counties, and consequently beans, either winter or spring sort, flourish better and are less subject to blight than in the drier counties. It often happens that a week of dry harsh weather from the east whilst the beans are in bloom is fatal to the crop, and this harsh east wind is peculiar to the eastern counties, whilst moist and rainy weather accompanied by a lower temperature more nearly represents the seasons peculiar to the western counties.

When land is intended for this crop it is well that it should be free from couch grass, and in order to save expenses in cultivation by horse labour it is best to have any couch forked out by hand which may be found in small separate bunches here and there. It is altogether unnecessary to incur heavy charges in horse labour in preparing the land, for in case the land is fairly clean one ploughing with harrowing and rolling will be quite sufficient to make the land firm at bottom and fine on the surface, which are practically the two leading points required in cultivating for winter beans. It is common now to drill winter beans, but formerly the plan was to plant with the dibble by hand, one man using two dibles, followed by women or boys to drop the beans, not more than two in each hole, and this is the best way to insure a regular plant. It is also best when a double crop of pulse is required. For instance, when winter vetches are drilled with the beans it is very difficult to adjust the quantity of beans and vetches, even when a few vetches are put in the drill at every turning on the headlands. The vetches usually will run much faster than the beans, and this causes an irregular and bunched plant, but in dibbling we insure a regular and even plant. The quantity of seed required will be two bushels per acre when drilled, but when dibbled $1\frac{1}{2}$ bushel will be sufficient, and when vetches are dibbled with the beans a half bushel per acre of vetches will be quite sufficient. When the winter beans are required as a single crop the distance between the rows may be 2 feet when dibbled, but 27 inches when drilled. We recommend the latter distance as best to secure the full advantage of interculture with the horse hoe. Winter beans usually stalk out and branch much wider than spring

beans; in fact, drilled beans always require most room. In all cases, either of drilling or dibbling, the distance between the rows is of great importance, because when the plants become crowded the free circulation of air and the action of the sun is excluded to a certain extent, and renders the crops far more susceptible to blight, and causes the blooms not setting so well nor will the pods fill so regularly as they should do.

It is of consequence to consider how this crop stands in the rotation, for although a crop of oats may pay as well as the beans the difference would be very great in the wheat crop whether it followed beans or oats, and much in favour of the beans. Although we have sometimes grown fine crops of wheat after oats upon the same style and rotation as grown in some parts of Lincolnshire and other counties on the fen lands, yet under ordinary culture upon the generality of soils the wheat will be much better after the beans, because we view it as a fallow crop, in the culture of which the land becomes aerated and mellow, and the falling leaf of the bean crop is considered to have a beneficial and fertilising effect upon a wheat crop following. Some of the best soils of strong loam in various districts are cropped with beans and wheat alternately, and some have been cultivated in this manner for a long period, and the land let subject to such a system of sowing fetches a higher rent in consequence. When this is the case it is, however, just a question which answers the best purpose—the winter or the spring beans. When it is intended to take a crop of roots in conjunction with winter beans the land should be clean and bouted up into ridges 3 feet wide, and a single line of beans planted in the centre of the ridges, and in this way we have taken a lesson from the market gardeners, who grow beans and cabbages in alternate lines. We first tried the plan of intercropping with roots about twenty-five years ago, and it proved very successful, our cultivation being, after setting the beans in the centre of the 3-foot ridge, to let it remain during the winter months. In the spring, as soon as the land would work freely, the horse hoe was used; we then drew a furrow with a one-horse double mould plough, into which the artificial manure was applied, and then horse-hoed again, and dibbled either mangold or carrots, seed or planted cabbages; the latter proved the surest and best adapted for the purpose. As soon as they have taken root well the land may be hand-hoed for the last time, and allowed to remain until the beans are fit to cut, which will be generally about the time of commencing wheat harvest, and sometimes a little earlier. When the beans are removed the land is horse-hoed between the roots, and this has a most beneficial effect upon the root crop, as well as clearing the land of any weeds which may have crept up in the lines of beans. The lines of beans being 3 feet apart we have found them yield much better than when planted closer, and in the same way the roots having so much rooting space they come very large, particularly if the manure for them has been applied liberally. We have frequently grown from 5 to 6 sacks of beans, and from 18 to 20 tons of mangolds per acre in favourable seasons, which must be considered a great produce as compared with a single crop. Cabbages do equally well and give a heavy crop, and are more certain to maintain a plant, because any crop to be reared from seed, like mangold or carrots, will always have to contend with insect enemies during their infancy. This method of double cropping only applies to the kinder and better soils, and is not adapted for strong clay land, strong land being most suitable for the growth of spring beans. When the beans are grown alone after the first horse-hoeing it is a good plan to harrow a single line across the rows of beans when the weather is dry, which will not only destroy the small weeds, but will break the shell or crust of the land around the plants and greatly facilitate their growth and the hand-hoeing which is to follow.

The best time for drilling or planting winter beans is about the middle of October, and it should be remembered that after the land is properly harrowed drilling answers best upon stale furrow, but planting succeeds best upon a fresh ploughed furrow, the land being properly harrowed and water-furrowed after planting.

Sometimes we have known winter beans planted in double rows 9 inches apart and 20 inches apart between the double rows. This plan is, however, better adapted for spring bean culture, because the hand hoes must work in the 9-inch space, and as winter beans branch out most they impede the hand-hoeing.

The cutting of winter beans early is of great consequence, and the best time is when the eye of the corn is turned black, the haulm being but little guide, as that will often be comparatively green, although the beans will be matured sufficiently for cutting. As, however, winter beans, particularly after a severe winter, grow very short, and are often podded close to the ground, we prefer to pull them by hand, and after being tied the sheaves stand several inches more above ground. The early cutting is of the utmost importance, because they will then take showery weather without the shedding of the corn by the shrinking and opening of the pods. In tying the sheaves we prefer tying with yarn, as the straw bonds do not answer all the purposes, as they are apt to break in stacking or in hauling to the machine at thrashing time. Formerly, instead of tying into sheaves at the time of cutting, it was the practice to set them up in loose state, tying the tops with a wisp of straw, and when dry then to tie into sheaves for stacking.

WORK ON THE HOME FARM.

Horse Labour has been lost to some extent owing to a succession of adverse weather for carting corn to stack or barn, and the same weather which prevents harvest work often renders horse labour of but little value upon the land. Now is the best time to sow trifolium, and it is often requisite when the land is not quite clean to scarify and then drag and harrow, and cart the weeds and stubble to a heap. This when decayed makes a good dressing for the pasture land, particularly if it has been put at the bottom of the pigsties, as it then comes out with the dung as first-rate manure. It has also the advantage, when the dung is allowed to accumulate, of keeping the pens drier and more healthy for the pigs, especially when the animals are fed mostly upon green food, for in such cases the portions of green food not eaten are trodden down, and so far serving the purpose of litter to some extent. When the accumulation in the sties becomes inconvenient, it will on removal be found to be some of the most valuable manure that can be made on the home farm. At intervals the horses will be engaged in cleaning and preparing the pea eddishes to be sown with wheat; and our plan is, first to rafter or half-plough the land, then scarify across the rafters, harrow and roll, and cart away weeds and rubbish to a heap, there to rot for future use. In some cases the horses will be ready to draw out manure from the farm premises on to the lea ground intended for wheat. We prefer to lay out manure on the clover leas instead of drawing it on to the peas or beans fallowed land, because on the lea ground the horses and carts pass over the land without injury by treading, &c. We, therefore, prefer to dress the land for wheat in those cases where it has been recently worked after peas or beans with guano, and in ordinary soils we have often obtained the best wheat of the season by an application of 3 cwt. per acre of the best Peruvian guano, and especially if the wheat is put in early, and the soil adapted for wheat culture, and the stronger the land is the more advantage it receives from guano. Our plan is to sow the guano broadcast, mixed with damp ashes to prevent its flying before the wind, and when sown upon the recently ploughed furrow and harrowed-in, the wheat may then be drilled without any injury to the young plants by the pungency of the manure, for it is never safe to drill guano with the seed. The odd horse will be engaged in horse-hoeing the stubble turnips; and in case these were sown after white oats, or the earliest cutting of wheat, they will now be forward enough to be horse-hoed, and hand-hoed also immediately after, for we have often had stubble turnips when sown after the earliest corn crops and when they have been drilled daily between the shocks of corn, had them sufficiently forward to furnish cover for the partridges on the 1st of September. Some say that September 1st is the latest period at which turnips should be sown in corn stubbles. When, however, they are sown thus late they do not give much food for sheep, unless they are allowed to run-up towards flowering in the spring; still, late turnips when sown after wheat may be ploughed under in the early spring for barley with the prospect of producing a full crop.

Hand Labour has been very various, the continuous rains having prevented the men from following-up the usual harvest work, and in consequence they have been employed in hedge-cutting, drawing straw for the thatchers, shaving the outside of wheat and oat ricks, &c. The second cutting of grass in the alluvial pastures and irrigated meadows will now be fit to cut for latter mow hay as soon as the ordinary harvest work is concluded. The men will also be employed in spreading manure on the clover leas intended for wheat. The cattle man must now attend to the heifers which have a young bull running with them and keep them frequently changed, and especially to provide a dry pasture for the night lodging; and as soon as it is known that all the heifers, including those which have turned have been served, the young bull should be taken up and tethered in a stall, or run loose in the house, and be daily subject to the attention of the cattle man in order that

he may have full control over the animal at all times. This is especially important, because it will be useful for a year or two longer when subservient to the manager. In some districts there is still much wheat and sheaved oats in the field, and the shocks should be kept set up every day. The shepherd now will attend the ewe flocks, and see that the rams are coloured on the chest with red, blue, or yellow ochre in order to observe which ram begets the best lambs, so that it may be retained in preference for the next year's service.

FAMOUS POULTRY YARDS.—No. 1.

COMBE ST. NICHOLAS VICARAGE (REV. HANS F. HAMILTON).

UNLESS we are much mistaken the fancy for poultry, and through it the useful improvement of the breeds of poultry throughout the country, has been as much advanced by quiet visits of fancier to fancier and comparison of notes as by all the poultry articles, all the poultry books, and all the poultry shows. A would-be keeper of high-class stock sees at some show birds which take his fancy, but he has a vague idea that they require some mysterious treatment (not entirely an erroneous one if they happen to have the ill fate to have been overshadowed), and that in ordinary quarters they may probably die, and so he ever puts off the day for starting with a pure-bred race. Or, again, he reads articles in some newspaper or chapters in some poultry book containing technical information for the experienced fancier; these too frighten him with their minutiae. A visit, however, to a well-arranged yard has a far different effect; there he may see sprightly birds not cooped in pens but running about with their natural grace, each has a history of its own; there he may learn that great beauty can be combined with the highest utility, and that some of the most successful prizetakers are reared in rough and primitive quarters. He may see bits of ground, heath, copse, orchard, or field which would hardly be either profitable or ornamental in themselves made attractive by pretty domiciles for the feathered stock, and troops of gay-coloured birds scattered over them. The ingenuity, too, with which dark outhouses and dull corners may be, and often are, converted into healthy habitations and sheltered runs for poultry is in itself interesting. We have vivid recollections of the enthusiasm which the first sight of a well-appointed lot of yards and aviaries aroused in ourselves, and many are the hints which we have learnt and adopted from establishments which we have visited. All our readers, however, cannot see great poultry yards, and the next best thing to seeing them is to read of them. We never saw the famed Inchmartine yards, but the accounts of them in "The Henwife" did much towards the development of our own. Through the kindness of many fanciers and friends—indeed so strong a bond of union is a rational taste, that there are many whom we once knew by name alone as enthusiastic fanciers whom we now number among our friends—we have seen a large portion of the most famous yards, and hope, however inadequately, to describe some of them for the benefit of others.

We do not begin with one of those establishments which have had their name and fame as far as our memory reaches back, but with one which is more interesting, because rising, and whose strains are in process of formation. For some three or four years have we observed in cup and prize pens magnificent Dark Dorkings and Dark Brahmas, each year of higher type, exhibited by the Rev. H. F. Hamilton. Their owner most hospitably invited us to pay him a visit to see the home of these birds and his lovely neighbourhood. It was late in July when we were able to avail ourselves of this invite—hardly the season for the inspection of the poultry, yet a capital one for the luxuriant vegetation around them, and never did we enjoy more the sight of a pretty place and well-filled yards.

Combe St. Nicholas Vicarage is an ideal place; though on the edge of Somersetshire the scenery leading up to it from Chard is more like that of Devonshire, with deep rich valleys and steep hillsides running up to gorse-clad and fern-clad downs. Steep indeed they are. It is well that Mr. Hamilton's horses are as good in their way as his poultry, for the sharp pitches of the road quite astounded us. Arrived at the Vicarage, we were at once struck with the beauty of its lawn. It rises from the front of the house in pretty slope and stretches out widely; in its centre are gay flower beds singularly well arranged for colour effect, on either side walks among trees and shrubberies; from the top of it runs far away a lovely grass alley, on one side of which is a well-filled border bank of flowers backed by a hedge, on the other a terrace-like walk, giving peeps over the nearer country to the far Devonshire hills. We have undertaken to write of famous poultry yards and not of beautiful gardens, so to the poultry yard we must go. On the left of the lawn parallel with the terrace and grass alley, but far below it, for all is on a hillside, runs a road towards the farm buildings and grass runs, which we shall presently come to; into this we descended, and the first thing which astonished our eyes was "the chicken house." It cannot be said of fancy poultry that they have fallen on evil days and evil times. The chicken house! Our infantile idea of a chicken house was a dark, windowless, fetid shed, with damp moss-grown brick floor, perches rising

up ladderwise towards the back, and the ventilation so arranged that the birds at roost were always in a thorough draught. Such is not exactly the construction of Mr. Hamilton's chicken house; what it is must be told in another issue.—C.

CRAVEN POULTRY SHOW.

THE twenty-fourth annual Show of the Craven Agricultural Society was held on the 30th ult. at Skipton. The entries were good in all sections, and the whole was a great success. The poultry were very wisely in the hands of paid attendants, which we consider a very wise provision, as all were well attended to. The birds were all of this year's hatch, and mostly shown in good bloom and entirely free from disease, such as was very common in the show pen a few years ago. *Game* headed the list, but contained nothing striking if we except the first-prize Black Red cockerel. *Cochins* were grand in both classes, the Partridge especially so, the first-prize pen containing such a pullet as we have not seen of late. *Brahmas* were very good in both classes, but in the Dark variety class one pen was left out, the cock being an old bird. *Spanish* were good; a capital pen could have been made out of the three winning pens. *Hamburgs* were very good as usual, the cup for the best pen going to Silver-spangles, the pullet in which pen was a marvel of her kind. *Game Bantams* were very good and in full feather, the whole of the prizes going to one yard; but the cream of the Bantam classes was the first-prize Black cockerel.

Pigeons were well represented in the Dragon and Antwerp classes, but the standard varieties fell short somewhat in entries.

POULTRY.—GAME.—*Black or Brown Red.*—Cockerels.—1, W. Rudd. 2 and 3, W. A. F. Fenwick. *vhc.* J. Wilkinson (2). *Pullet.*—1, T. Boothman, jun. 2 and *vhc.* W. A. F. Fenwick. 3, T. Dyson. *Any other variety.*—Cockerel.—1, R. Walker. 2, J. Greenhalgh. 3, H. Nuttall. *Pullet.*—1, J. M. Sellers. 2, W. Rudd. 3, J. Greenhalgh. *vhc.* R. Walker. **COCHINS.**—*Buff.*—Chickens.—1, C. Sidgwick. 2 and 3, T. Pye. *Any colour.*—Chickens.—1 and 3, C. Sidgwick. 2, R. J. Wood. *vhc.* H. W. & H. King. R. J. Wood. **BRAHMAS.**—*Dark.*—Chickens. 1 and 2, T. Pye. 3, T. F. Ansell. *Light.*—Chickens.—1, Horace Lingwood. 2, J. and W. Birch. 3, H. W. & H. King. *vhc.* A. Whitehead. **SPANISH.**—Chickens.—1, 2, and 3, J. Roberts. **DORRINGS.**—Chickens.—1, T. Briden. 2, J. Newton. 3, J. Walker. **POLANDS.**—Chickens.—1 and 3, J. Rawnsley. 2, H. Beldon. *vhc.* H. Bowker. **FRENCH.**—Chickens.—1, C. Sidgwick. 2, Robinson & Myers. 3, J. Moore. **HAMBURGS.**—*Golden-spangled.*—Chickens.—1, H. Beldon. 2, H. Pickles. 3, J. Rawnsley. *Silver-spangled.*—Chickens.—Cup and 1, H. Beldon. 2, T. Smith. 3, H. Pickles. *vhc.* J. Rawnsley. 3, Cockshott. *Golden-pencilled.*—Chickens.—1, H. Pickles. 2, T. P. Carver. 3, H. Beldon. *vhc.* J. Rawnsley. *Silver-pencilled.*—Chickens.—1 and 2, J. Rawnsley. 3, H. Beldon. *Black.*—Chickens.—1, C. Sidgwick. 2, T. Hoyle. 3, H. Beldon. *vhc.* R. L. Garnett. **BANTAMS.**—*Game.*—Chickens.—1, 2, and 3, W. F. Entwistle. *vhc.* J. H. Rhodes. *Any other variety.*—Chickens.—1, E. Mawson. 2, Robinson & Myers. 3, McCullis & Milne. **SELLING CLASSES.**—*Cock.*—1, R. Corless. 2, H. Beldon. 3, J. Roberts. *vhc.* D. Sharp. *Hens or Pullets.*—1, H. Bowker. 2, R. Corless. 3, H. Beldon. **GEESSE.**—1, J. Walker. 2, A. Orr. 3, J. & W. Birch. **DUCKS.**—*Rouen.*—1, J. Walker. 2 and 3, J. Newton. *Any other variety.*—1, J. Walker. 2, H. Beldon. 3, W. & P. Briggs.

PIGEONS.—CARRIERS.—*Cock.*—1, J. Walker. 2, J. Booth. *Hen.*—1, J. Walker. **POUTERS.**—1 and 2, H. Beldon. **TUMBLERS.**—*Short-faced.*—1 and 2, F. W. Neale. *Long-faced.*—1, E. Mawson. 2, J. Booth. *vhc.* Ward & Lister. **OWLS.**—1, Ward & Lister. 2, J. B. Newbold. *vhc.* J. Thresh. **BARDS.**—1, J. Thresh. 2, H. Beldon. **JACOBINS.**—1, J. Roberts. 2, H. Beldon. **FANTAILS.**—1, H. Beldon. 2, T. Blackburn. **DRAGONS.**—1, W. Lund. 2, H. Beldon. **ANTWERPS.**—*Long-faced.*—1, J. Wade. 2, W. Lund. *vhc.* J. Booth. *Medium.*—1, J. Wade. 2, A. Garnett. 3 and *vhc.* R. Mason. *Short-faced.*—1, S. Wade. 2, W. F. Entwistle. *vhc.* J. Wade. *Any other variety.*—*Young.*—1, J. Wade. 2, J. Bishop. *vhc.* J. Ryshworth. **ANY OTHER VARIETY.**—1, H. Beldon. 2, H. Beldon. R. Mason.

Mr. Hutton judged the poultry and Mr. Cannon the Pigeons.

COTTINGHAM SHOW OF PIGEONS, &c.

The annual Show of the Cottingham Society was held on Wednesday, the 28th ult., in beautiful grounds well adapted to the purpose, and the day proved fine and enjoyable. Poultry for the first time for many years found no place—Pigeons, Rabbits, and Cage birds only, but these mustered in much greater force than was ever the case there before, and the quality was also very high; but the otherwise excellent marquee, which in the wet would have proved a great boon, was too dark by far on account of the thickness of the canvas, and the light was wretched in the extreme.

Carriers were a grand display in both classes, the first-prize hen also securing one of the extras. *Turbits* were very good indeed, as also were the *Jacobins*; the first and second Reds almost equal in merit. *Fantails* and *Dragons* only moderate. *Tumblers.*—First and cup a capital Almond hen, closely pressed by one of the best cocks we have seen of late, *Antwerps* very good; the first a Short-faced Dun of capital head properties. In the Selling classes were some good Pouters, too good in fact to be sold at such prices as the list provided. In the Variety class first was a Fairy Swallow, second a Nun, and third a Suabian. *Pouters* came last, but these were a grand lot, Messrs. Fulton and Hairsine dividing the honours with some well-shown birds; a Black hen shown by the latter gentleman securing the cup for this section.

Rabbits produced some sensational doings, for in Lops one exhibitor, thinking to make himself more safe of the points prize, actually took another exhibitor's Rabbit out of his pen and placed it in his own, thus securing both first and second honours to count to his own credit. First was a Fawn doe, 2½ by 5½; second Black-and-white, 2½ by 4½; and third Fawn-and-white, 22 by 5; a very good class indeed. *Silver-Greys* a very good and large

class; first a good all-round Rabbit; second and third very close and better in ticking, but not quite as even. *Himalayan*, the winners three good ones, but rest poor. A capital Polish was penned here, whether by mistake or design we leave others to decide, but the exhibitor was present. The Selling class had a large and good entry, the first a good all-round Grey Dutch, second a Silver-Grey, and third Silver-Cream, many others being very highly commended. The Variety class was so good that it was divided and six prizes given. First and equal first Fawn Dutch and Silver-Cream; second and equal second Silver-Creams and Dutch; third and equal third to Dutch and Belgian Hare.

Cage Birds mustered well, the Grey Parrots proving an uncommonly good class, and the collection of foreign birds very numerous and good. In Canaries the Belgians headed the list, and these were such as we rarely see excelled. The winners were in good feather, and style of carriage was excellent—neat heads, long necks, and grand shoulders. The Norwich were an extraordinary class, Buffs winning the prizes, but the Marked birds were not good, and the British birds only moderate.

PIGEONS.—CARRIERS.—*Cock.*—1, R. Fulton. 2, H. Yardley. 3, J. Hairsine. *vhc.* R. White. *Hen.*—1 and 2, R. Fulton. 3 and *vhc.* H. Yardley. **TURBITS.**—*Blue or Silver.*—1, J. Hairsine. 2 and 3, Pickering & Hudson. *Any other colour.*—1, R. Fulton. 2, J. Hairsine. 3, Pickering & Hudson. **JACOBINS.**—1, R. Fulton. 2 and 3, J. Hairsine. **FANTAILS.**—1 and *vhc.* J. E. Loversidge. 2, H. Yardley. 3, J. Hairsine. **DRAGONS.**—1, E. Mawson. 2, H. Yardley. 3, R. White. *vhc.* W. Featherstone. **TUMBLERS.**—Cup and 1, H. Yardley. 2, R. Fulton. 3, J. Hairsine. Whole class very highly commended. **ANTWERPS.**—1, H. Yardley. 2, E. Mawson. 3, R. White. *vhc.* W. Stephenson. **BARDS.**—1 and 3, R. Fulton. 2 and *vhc.* H. Yardley. **OWLS.**—1, J. Hairsine. 2, R. White. 3, H. Yardley. **ANY VARIETY.**—Chickens.—1 and 3, J. Hairsine. 2, F. Stamford. **ANY OTHER VARIETY.**—1, J. Hairsine. 2, E. Mawson. 3, H. Yardley. **SELLING CLASSES.**—*Single.*—1, J. Hairsine. 2, G. Destner. 3, F. Stamford. *vhc.* D. Maynard. **Pairs.**—1, Hairsine. 2, F. Hudson. 3, P. Atkinson. **POUTERS.**—*White.*—1 and 2, R. Fulton. 3, G. Destner. *vhc.* J. Hairsine. 3, G. Destner. *Any other colour.*—1, R. Fulton. 2 and 3, J. Hairsine. *Any colour.*—*Hen.*—Cup, 1, and 2, J. Hairsine. 3, R. Fulton.

FOREIGN AND BRITISH BIRDS.—PARROTS.—*Grey African.*—1, Mrs. E. Gibson. 2, H. Smith. 3 and *vhc.* J. Gower. *Any other variety.*—1, L. Meinecke. 2, S. P. A. C. Constable. 3, Swain & Dobson. *vhc.* L. Meinecke (2), J. Gower. **PARROQUET OR LORE.**—1, A. Constable. 2, G. W. West. 3, L. Meinecke. **LOVE BIRDS.**—OR ANY OTHER VARIETY OF FOREIGN BIRDS.—1, J. Gower. 2, G. Purdon. 3, Swain & Dobson. *vhc.* W. Burniston. S. G. Hudson. **BEST COLLECTION OF FOREIGN BIRDS.**—1, Swain & Dobson. 2, L. Meinecke. 3, J. Gower. **CANARIES.**—*Belgian.*—1, J. Swain. 2, W. Forth. 3, —Hawksley. *vhc.* L. Meinecke. *Norwich.*—1, 2, and 3, W. Forth. *vhc.* C. Greenwood. W. Grantam. *Best marked.*—1, W. Hayward. 2, L. Meinecke. 3, C. Greenwood. **LARKS.**—1, Hall. 2, L. Meinecke. 3, J. R. Dulton. **ANY VARIETY OF ENGLISH FIELD BIRDS.**—1, Meinecke. 2, E. Nison. 3, J. Hogg. *vhc.* H. Harrison. R. Kneeshaw. C. Boynton. **MULES.**—1, W. Forth. 2, T. Lyon. 3, —Walker.

RABBITS.—*LOP-EARED.*—1 and 2, J. & E. Fell. 3, C. Clough. *vhc.* C. E. Thompson. W. T. Millet. **SILVER-GREY.**—1, T. & E. Fell. 2 and 3, J. H. Field. *vhc.* J. E. Winespear. C. Clough. S. G. Hudson. **HIMALAYAN.**—1, A. Hudson. 2 and *vhc.* A. Duck. 3, T. & E. Fell. **SELLING CLASS.**—1, E. Pepper. 2, —Hornet. 3, A. Canty. *vhc.* J. G. Abiart. S. Buckley, J. Graham. A. Canty. Doyle & Crump. J. E. Field. **ANY OTHER VARIETY.**—Equal 1, J. Foster. E. Pepper. Equal 2, A. Canty. C. Clough. Equal 3, J. Whitaker. T. and E. J. Fell. *vhc.* S. Buckley. A. Duck. M. Medley, M. Walker.

JUDGES.—*Foreign Birds.*—Messrs. Hutton and Coker; all others Mr. E. Hutton.

THE NATURAL AND THE ARTIFICIAL.

UNDER the above heading there is in your impression of June 20th a clever article by Mr. Pettigrew, with the object of eliciting the results of the use of artificial foundation. I read with great interest the articles emanating from the pen of Mr. Pettigrew, but I often say to myself what an American bee-keeper observed to an over-inquisitive visitor who by each query displayed his ignorance of the strides bee-keeping has taken of late years—viz., "Does this man take in the bee journals?" If Mr. Pettigrew does, then does he read them? Does he ever glance at the advertisements?

Writing for a journal occupying the proud position the *Journal of Horticulture* does Mr. Pettigrew ought to be up to the times, and read up, if he does not practise, be lore of the most advanced character. Had Mr. Pettigrew done so he would not base his calculations for cost of artificial foundation on the fact that one correspondent stated that he paid 1s. 6d. per sheet 18 by 22 inches, which is the price Messrs. Neighbour & Son charge for genuine American foundation, but he would have looked at the advertisements to see for the cheapest, and yet the best source, from which he as a bee-master with a number of hives to work could procure a quantity for, or manufacture it at for himself. In such a case Mr. Pettigrew would not have used these words: "Even if the bees adopt them readily and build upon them easily, the question that arises is this, Are they worth the sum?" I hold that page after page of the American bee journals for 1877 and '78, as also many pages in the "British Bee Journal," and the newest American work—to wit, "The A.B.C. of Bee-culture," by Mr. Root, 1878; "The Manual of the Apis," by Professor Cook of Michigan State College of Agriculture (published Chicago, June 1st, 1878), all bear ample proof that bees do accept foundation, and that it does pay.

But brother Jonathan does not buy in such a dear market as Mr. Pettigrew, oh, no. He reads the advertisements, and he finds he can get 5 to 10 lbs. 12 by 18 inches or any smaller size at just 2s. per pound, or if Jonathan and friends co-operate they can divide a thousand pounds between them at about 1s. 8d. per pound. I have weighed some sheets in my stock had from Messrs. Neighbour & Son 18 by 12 inches. Eight sheets weigh 2½ lbs.

Three and three-quarters of a sheet make up a pound, which gives the cost per pound as about 4s. It is not this cost but the American prices that in the future of artificial foundation will be the basis for its cost, plus or minus the difference of value of wax in the United States and England. At present fancy prices rule, and if Mr. Pettigrew were wide awake to his own interest he would be in possession of a machine to-day and turning out a large quantity per day as long as novelty lasts. He could have been coming, but he has left it to others who by their foresight advance the cause of scientific bee-culture, and earn the honest penny also.

Here in Algeria I have tested the value of foundation, and I believe the day is come when the scientific bee-keeper who works for profit will not be without it. My observation and practice lead me to discard the natural comb, and when a fresh comb is necessary I employ foundation. I quite agree with the best American authorities in that for the brood chamber "foundation is a magnificent success," but that for supers, unless an excessively thin foundation be used, it is best not to tack on the word "artificial" to super honey, and so leave it open to the charge of being adulterated. Let me mention a few points wherein I think it pays to use foundations, assuming that all persons know that the best gives not only the base of the cells but shallow side walls with enough wax to form the sides of the cells.

By introducing a swarm to a hive supplied with foundation I insure combs perfectly straight, and positively priceless when you come to use the extractor. I insure all worker comb, a little drone comb, or none at all, just as I chose. I have given the bees wax enough, and no more, to make their combs without their having consumed honey to secrete it. In twenty-four hours several sheets of the foundation will be worked out three-quarters of the full depth of the cells, and each unfinished cell may actually contain an egg. Each sheet of foundation, now a frame of honey-comb, I can with growing interest hold in my hand, while my bees quietly proceed with their work—yea, even find the queen mother, follow her as she proceeds to inspect each cell, which, finding suitable, she soon tenants with an egg, apparently unconscious that the writer has her well in the focus of a powerful lens, and can observe a natural phenomenon that Huber and other great and observing men never saw with such facility. Again, this August 21st have I observed the queen laying with naked eye, and on bright new foundation comb each movement is easily visible. Of the population of a swarm to which foundation is thus given two-thirds will be out honey-gathering, while the remaining third elongate the cells and tend the young, &c. Had the swarm no foundation two-thirds of the population must stay at home to aid the wax secretion by mutual warmth, &c. Here is a direct gain through being able to send more labourers to the fields at the most precious period of the year. The swarm has had eight sheets at 1s. 6d., value 12s., given it. These weigh 2½ lbs., which weight of wax represents an actual amount of Mr. Pettigrew's honey at 1s. 3d. per pound.

Opinions vary as to the precise weight of honey consumed by bees to secrete 1 lb. of wax. We will err on the safe side, and take that 5 lbs. of honey go to make 1 lb. of wax. Then the swarm was started with a gift of an equivalent to 11 lbs. honey at 1s. 3d. per lb., value 13s. 9d., but the foundation cost 12s., and the balance therefore is on the side of foundation. At once, with this calculation fresh in our minds, let us take the possibility that it only takes 3 lbs. of honey to produce 1 lb. of wax, this being the conclusion arrived at by Mr. Vignoles in France after experimenting, and contrast that with the American prices:

Wax foundation 2½ lbs. at 2s. per pound 4s. 5d.
 6½ lbs. of Mr. Pettigrew's honey at 1s. 3d. per pound ... 8 2
 Is there not a balance of 3s. 9d. on the side of artificial foundation? Add these apparent facts to the advantages I have mentioned, and I leave it to your readers to judge whether or no foundation will pay.

Later on I hope to see my convictions endorsed by such able writers as your esteemed correspondent "B. & W." and others, not forgetting Mr. Pettigrew, who can easily experiment next spring.

At the moment of writing this letter I have received the American "Bee Journal" for August, and from it I cut a portion of a letter bearing on the subject in hand. The letter is dated July 14th, 1878, and reads:—"Arkansas, Wisconsin.—Two apiaries close by us of twenty-three colonies each have not had a single swarm yet. I intend to use the Langstroth hive altogether next year. I found the comb foundation a present help in time of need. I used 25 lbs. with good success. This is my experience with the foundation. I have doubled my stock by its use, while my neighbours in the bee business have just as many colonies as they had when the working season commenced and no more, and in no better shape than ours are now."

I need only say that these observations tally with my experience. The desire to answer Mr. Pettigrew's remarks suggested to me the advisability of making an experiment by transferring an Arab hive recently purchased, carefully noting its progress, and giving your readers the benefit of the same. As my hives contain thirteen frames 13½ by 8 inches, and there was only brood enough to barely fill three frames, I had to fill up the hive with ten frames

of foundation. I estimated the bees to weigh about 5 lbs. The hive card reads as follows:

HIVE No. 42.—An Arab hive transferred August 9th, 1878. Three frames brood, ten frames foundation, bees of native breed—Apis fasciata.

August 10th.—All sheets of foundation worked out more or less. One sheet having fallen down, although partly worked, had to be replaced by a fresh sheet.

August 11th.—Every sheet of foundation worked out, and those next the brood extended entirely, and fresh-laid eggs in some of the sheets.

August 13th.—Fresh eggs fill three sheets foundation entirely. Honey in three also. Four sheets of foundation are not quite extended, but have honey stored in them.

August 19th.—Caught queen and clipped her wing. Plenty of fresh eggs and brood. Extracted honey in six frames.

August 21st.—Honey stored in frames that were extracted.

August 26th.—Saw queen. I was obliged to extract one frame of honey to give queen vacant cells to lay in.

August 27th.—All going on well.

I will conclude my observations by saying that for warm climates foundation obviates the necessity of storing empty frames of comb, which so soon become a breeding ground for moth. I am, therefore, determined to get a machine and make my own foundation for the future.—ARTHUR TODD, *Algeria*.

OUR LETTER BOX.

KERRY COWS (*Capt. Thompson*).—If you communicate with Mr. Wicken-den, Maynard's Green, Horeham Road, Hawkhurst, you will no doubt get some information about Kerry cows. He has a very fine herd of these useful little animals.

GAME BANTAMS (*Amateur*).—We never like to recommend anyone. You had better consult our advertising columns.

BEES FIGHTING (*W. E. G.*).—In feeding bees in autumn great care should be taken to prevent fighting. All feeding should be done after sunset in favourable weather, and nothing left about the hives fed to attract strange bees. If feeding be done in a careless way at this season all the bees in the neighbourhood become excited with robbing propensities. The bees that you see rolling off the right boards of your hives are strange bees or robbers stung to death. Suspend feeding for a few days and contract the doors of your hives. All will be well.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.						Rain.	
	Baromet. at 22° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. at 1 foot.	Shade Tem- perature.		Radiation Temperature.		In. sun.		On grass
		Dry.	Wet.			Max.	Min.					
1878. August and Sept.	Inches.	deg.	deg.	S.W.	deg.	deg.	deg.	deg.	deg.	In.		
We. 28	29.770	65.8	69.7	S.W.	61.4	72.3	56.6	119.4	57.6	0.132		
Th. 29	29.690	61.0	59.9	N.E.	61.4	72.4	56.6	105.5	54.4	0.143		
Fri. 30	29.675	62.6	58.6	S.W.	61.2	64.8	58.4	114.9	54.3	0.412		
Sat. 31	29.627	59.6	57.4	N.W.	61.0	68.8	57.2	103.2	56.9	0.321		
Sun. 1	29.611	59.5	56.5	N.W.	60.8	69.0	54.9	83.2	52.8	—		
Mon. 2	29.587	60.1	55.2	N.W.	60.2	68.3	55.0	116.4	51.8	—		
Tu. 3	29.622	61.5	57.3	S.W.	59.7	71.9	49.4	118.5	48.7	—		
Means	29.590	61.5	57.9		60.8	69.6	55.2	109.3	52.9	1.011		

REMARKS.

28th.—Fine bright morning, heavy showers afterwards.

29th.—Dull and showery, but the sun shone occasionally; thunder at 9.15 A.M., a very rough night.

30th.—Alternately dull, showery and bright; a very heavy shower at 0.45 P.M. one vivid flash of lightning at 0.47 P.M.

31st.—Showery with a little sunshine.

1st.—Rather dull all day but no rain.

2nd.—Morning rather dull; brighter in the afternoon.

3rd.—Fine bright day.

The first part of the week was very unsettled, Friday and Saturday being particularly wet. The barometer, which had been rather low for some time, fell rapidly just before 8.30 A.M. on the 30th, but from that time it rose steadily and the weather improved, the last three days being fine with a high barometer. Barometer higher than last week, temperature rather lower, rainfall heavy.—G. J. SYMONS.

COVENT GARDEN MARKET.—SEPTEMBER 4.

TRADE still keeps quiet, there being no recovery from last week's quotations. Peas are the main supply, reaching us from the Continent, and consist of Williams' Bon Chrétien and Duchesse d'Angoulême. Kent Cobs and Filberts, owing to shorter supply, are selling freely at higher rates.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	½ sieve	2 0 to 4 0	Melons.....	each	1 0 to 4 0
Apricots.....	dozen	0 0 0	Nectarines ..	dozen	1 0 8 0
Cherries.....	½ lb	0 0 0	Oranges.....	dozen	0 10 8 0
Chestnuts.....	bushel	0 0 0	Peaches.....	dozen	1 0 8 0
Currants.....	½ sieve	0 0 0	Pears, kitchen..	dozen	0 0 0 0
Black.....	½ sieve	0 0 0	dessert.....	dozen	1 0 3 0
Figs.....	dozen	1 0 3 0	Pine Apples..	½ lb.	3 0 6 0
Filberts.....	½ lb.	0 8 1 0	Piums.....	½ sieve	2 6 5 0
Cobs.....	½ lb	0 8 1 0	Raspberries...	½ lb.	0 0 0 0
Gooseberries..	quart	0 0 0	Strawberries..	½ lb.	0 0 0 0
Grapes, hothouse	½ lb	0 6 0 0	Walnuts.....	bushel	5 0 8 0
Lemons.....	dozen	6 0 10 0	ditto.....	dozen	0 0 0 0

WEEKLY CALENDAR.

Day of Month	Day of Week	SEPTEMBER 12—18, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.			
12	TH	Glasgow and Northampton Shows.	68.8	44.8	56.8	5	32	6	21	6	14	6	21	15	3	255
13	F		67.8	45.6	56.7	5	33	6	18	6	26	7	30	16	4	256
14	S	Sale of Bulbs at Stevens's Rooms.	66.7	46.3	56.5	5	35	6	16	6	40	8	39	17	4	257
15	SUN	13 SUNDAY AFTER TRINITY.	67.1	46.2	56.8	5	36	6	14	6	57	9	50	18	4	258
16	M	Royal Horticultural Society—Fruit and Floral Committee at 11 A.M.	68.3	47.5	57.9	5	38	6	12	7	18	11	1	19	5	259
17	TU		69.1	45.7	57.4	5	40	6	9	7	47	0	13	20	5	260
18	W		68.8	46.8	56.8	5	41	6	7	8	27	1	19	21	6	261

From observations taken near London during forty-three years, the average day temperature of the week is 67.8°; and its night temperature 46.1°.

BULBOUS PLANTS FOR WINTER AND SPRING DECORATION.

VARIOUS nurserymen's catalogues and advertisements of the Hyacinth and other Dutch flower roots remind us that notes on the culture of bulbs, and also which varieties to select, may be useful to those who have hitherto had but little success in the management of these fragrant and beautiful flowers, which with care may be had in beauty from December until the first week in April.

To have Hyacinths in flower at the earliest time here mentioned bulbs of the Roman Hyacinth must be purchased at once and potted on arrival, placing five or six bulbs in a 6-inch pot, using a compost of light loam, plenty of sand, and leaf soil. After potting plunge the pots up to the rims, covering the tops over with a thick coating of cocoa-nut fibre, which may be purchased very cheaply and does not injure the bulbs like coal ashes. Roman Hyacinths cannot be compared with the Dutch Hyacinth for magnificence of spike and beauty, being more like our wild wood variety; but for earliness of flowering, combined with the purity of its flowers, it is fast becoming a popular favourite for the making of bouquets, wreaths, and other decorative purposes. When the potting and plunging are completed the bulbs may be left undisturbed until the beginning or middle of October, or later, according to the time required for flowering. The most advanced at that time should be collected and removed to a frame or pit and brought on very gradually, much in the same way as is directed for the larger-flowering varieties; but at no time subject them to a strong temperature, or they will become drawn and lanky. Give water copiously when the plants are throwing up their miniature spikes and while in flower. For mixing in conservatory borders or for front lines potfuls of Roman Hyacinths will be found invaluable and last a long time in flower.

Having now for several years grown some very good examples of what are termed Dutch Hyacinths for exhibition, and that with a fair amount of success, I can strongly recommend the following thirty-six varieties as constant and to be relied upon for uniform and handsome spikes:—*Reds*: Charles Dickens, Emmeline, Fabiola, Gigantea, Ornement de la Nature, Macaulay, Prince Albert Victor, Princess Clothilde, and Von Schiller. *Whites*: La Grandesse, Grandeur à Merveille, Madame Van der Hoop, Baroness Van Tuyll, Alba Maxima, Paix de l'Europe, Alba Superbissima, and Mont Blanc. *Blues*: Grand Lilas, Blondin, Lord Derby, Charles Dickens, King of the Blues, Baron Van Tuyll, Marie, and General Havelock. *Lilac or Mauve*: De Candolle, Haydn, and Sir Henry Havelock. *Yellow*: Bird of Paradise and Ida. The thirty varieties named are all single, and the following half-dozen are amongst the best of the double varieties and complete the number mentioned above:—Koh-i-Noor, Lord Wellington, Blocksberg, Garrick, Laurens Koster, and Van Speyk.


The best twelve varieties are undoubtedly Koh-i-Noor, Von Schiller, Macaulay of the reds; La Grandesse, Grandeur

à Merveille, Alba Maxima, and Baroness Van Tuyll of the whites; King of the Blues, Grand Lilas, Charles Dickens, and Baron Van Tuyll of the blues; with the yellow Bird of Paradise. Other varieties may produce equally large spikes and fine bells, but those named are always constant, and will be found in every prize collection. To still further select: Von Schiller and Macaulay are the very best of the reds; La Grandesse and Grandeur à Merveille take the same place amongst the whites; while King of the Blues and Grand Lilas are in the foremost rank amongst the blue varieties.

Having giving the selection I will state the best way to proceed with their successful culture, observing first that those who contemplate growing for exhibition should order three or more bulbs of the same varieties; for it may so happen that if only one bulb is ordered it may not be fully matured and produce a spike somewhat too small, or it may throw up two or more trusses instead of one very large one. The vendors of these bulbs no doubt try their very best to select solid and well-matured bulbs, but Nature will at times deceive the most experienced. All varieties do not become matured at the same age, and therefore those who wish to gain first honours should grow several bulbs of a few constant varieties rather than one each of a greater number of sorts, and then form a selection from the very best spikes produced. A well-grown Hyacinth should have the foliage tolerably short, broad, and stout, so that it stands bold and erect; the stem of the flower spike should not be longer than the leaves, and the spike should be fully developed above the leaves. As soon as the bulbs arrive it may be well to examine them, and those intended for exhibition should be put carefully away until the middle or end of October, when they may be potted; but those intended for forcing should be potted at once, using a good mixture of sandy loam, leaf soil, and thoroughly decayed dry cow manure.

Have in readiness a sufficient quantity of 48 and 32-sized pots, using a fair amount of good drainage, fill the pots with the compost; make a hole with the fingers sufficiently large to receive the bulb, which should be placed in sharp silver sand, the top of the bulb to be on the level with the top of the pot. When potted press the soil firmly all round. By adopting this method the bulbs while making their roots are not so likely to be lifted out of the soil as when they are pressed down into the compost. Place the pots out of doors on a hard bottom, and cover sufficiently with cocoa-nut fibre refuse to keep out sharp frost. In this position they should remain until the first week in the new year, when the fibre can be easily cleaned from them, and the bulbs gradually inured to the light. For the first few days after removal either small pots should be inverted over the bleached crowns or they should be shaded with a mat until they become green. The flower spikes are plainly visible while in this undeveloped state, so that a look-out must be made for slugs, mice, &c., or they may cripple an otherwise good spike of bloom.

A low span-roof pit or a shelf near the glass in a greenhouse are good places to bring them along gradually to bloom during March. No forcing will be required from

this time onwards. Weak liquid manure may be given them with beneficial results, and nothing appears to suit them better than very stale manure water that has been exposed all the winter, to which may be added a small quantity of soot. Never allow them to become dry after this; and as the spike grows it will require supporting. The best and neatest mode of doing this is to bend some wire about 3 inches at one end, then bend it again about $1\frac{1}{2}$ inch, thus— having a straight upright piece about 18 inches long, which must be carefully placed inside the bells, the spike being neatly tied to the wire. The wire may be made secure at the bottom by driving a notched stick tightly by the side of it, and securing both together with strong matting; in this way the trusses will travel for miles without the least injury, and the supports are scarcely visible. Should the wire be too long for the truss it can be easily shortened with a pair of wire-cutters at the last minute.

It is always an advantage and adds greatly to the symmetry and beauty of the spikes to dress them. With a couple of small smooth sticks or ivory points of the size of a cedar pencil the uppermost pips are lifted up, and so on until the whole mass are raised. The curl of the pips is generally sufficient to support each other.

At the London shows double spikes are excluded in some classes; but it is folly to try and exclude fasciated spikes, for all the best trusses are more or less fasciated and some particularly so. Most exhibitors plunge the 6-inch pots in which Hyacinths are grown inside larger pots, the surface of both being covered over with fresh green moss, which adds greatly to the good appearance of the plants on the exhibition table.

Tulips require much the same soil and treatment as Hyacinths, only that some decayed horse droppings may be advantageously incorporated with the soil in the place of the cow manure. Place three or four bulbs in 6-inch pots, and when the flowers commence opening a slack ligature should be tied round each bloom to prevent it fully opening. Five or six varieties are all that are required to be grown for exhibition; and White Pottbakker will be found the most useful white; Vermillion Brilliant the best scarlet; Keyzers-kroon, a large showy scarlet and yellow; Prosperpine, rosy crimson, the finest Tulip grown of its colour; Van der Neer, rich violet; and Fabiola, white striped with red.—J. W. MOORMAN.

NECTARINES.

By many the Nectarine is considered the richest and most agreeable fruit in cultivation; still, the Nectarine is by no means plentiful or even common, for in large gardens usually it is not so numerously grown as the Peach, and in many small gardens where a few Peach trees are cultivated the Nectarine is not to be found. This is a mistake, and I am sure everyone would prove it to be so did they grow a few Nectarine trees. In all points of culture they are no more difficult to manage than Peaches, and I consider both of these fruits as easily cultivated as Plums, Apricots, or any other stone fruits.

Although Nectarines do tolerably well with us out of doors, our position being sheltered, they might not succeed so well everywhere; but there is no danger of failure with them under glass, and they do admirably in unbeated houses. I am sure it would pay anyone handsomely to put up a light glass structure without any heating appliances and plant it wholly with Nectarines, and in favourable localities and in sheltered positions a number of trees might always be planted out of doors against south walls. According to our experience they are a more profitable and certain crop in such positions than Apricots.

In starting Nectarines either under glass or in the open air a beginning should be made with two important things—viz., new soil or properly prepared borders, and healthy young trees. Nectarines will always thrive admirably in soil which produces good Grapes, but there is less manure required. Good drainage is very essential to the well-being of the Nectarine, and to this too much attention cannot be paid. Two feet is quite deep enough for the border, and where the ground is naturally damp it may be raised half this depth above the level. When planted against open walls the border may be made from 8 to 12 feet in width. When planted in lean-to houses with trees in front and others against the back wall the whole interior of the house should be border. In addition to the bottom drainage it is a good plan to place a little mound of broken bricks as a station for each tree. As to loam, that

of a moderately heavy yellow description suits well, and with this we generally mix a good quantity of old lime rubbish, charcoal, and burnt refuse of any kind, adding more or less as the soil is open or retentive. At first no manure should be mixed with the soil, but a few bones broken small act beneficially. In after years a slight top-dressing of half-decayed cow manure may be forked into the surface of the border as it is seen it is necessary.

From the first great care should be exercised in pruning and training. The pruning is never a heavy undertaking, as in summer the shoots should be laid in and tied to the trellis or wall, cutting out weak growths and shortening back any that are straggling from the others. When this is attended to in proper time little or no pruning is necessary in winter, and when any is wanted it is simply doing the same thing as was done, or should have been done, in summer. The foliage must also be kept clean at all times. A good border, healthy root-action, and abundance of water during the growing season will do more than anything else to ward-off all kinds of insects.

Nectarines will bear forcing quietly like Peaches, and by this means they may be had ripe in May or early in June. Lord Napier, Elruge, and Hardwicke are the best for coming in early; Violette Hâtive and Pitmaston Orange next, and Newington late. These are the principal if not all the best Nectarines in cultivation.—A KITCHEN GARDENER.

AUTUMN ROSES—A DAY AT CHESHUNT.

A DAY spent at one of the principal courts of the queen of flowers must always be a red-letter day in my life, and a few days since I was privileged to spend a long day with that ardent and excellent rosarian Mr. George Paul. I went there for the express purpose of finding out what Roses bloom most freely in autumn, and a better place I could not have chosen. The day was dull and showery and the Roses had suffered much from the unseasonable weather we have had of late, yet many of them were blooming so very freely that I was enabled to form a good judgment as to the autumnal varieties. To my great delight I found Mr. Paul at home, and was most heartily welcomed by him. After examining the home nursery and refreshing me when weary he kindly drove me to his High-beach nursery. This is distant six miles from Cheshunt, and is on the fringe of Epping Forest. I shall hope hereafter to give you a description of this lovely place, for the description of the home nursery will occupy enough of your space for one week; but I cannot quit the subject without remarking that I never saw a more lovely place, and that I could hardly believe I was within fifteen miles of Charing-Cross, so rural and retired was the situation.

Mr. Paul's Roses are worked on all sorts of stocks—on the Briar, the Manetti, the seedling Briar, and a new stock I know nothing of called the De la Grefferie. It is, I believe, an old China Rose.

To give your readers some idea of the numbers cultivated at Cheshunt, on one piece there are five acres of standard Roses, four acres of Manetti, and three of seedling Briars. The plants were splendid in growth. On one Manetti I counted twelve shoots, and on a standard Rose ten. In another field there were four acres of Manetti and three acres of standards for next year. The budding for this year was nearly finished, and boys were busily engaged removing the cotton strapping. This was a novel practice to me. I had been accustomed to see the cotton left on till the following spring. Mr. Paul, however, wants it removed as soon as possible so that the bud may become ripe, and certainly the practice seemed to answer.

Another most excellent plan adopted here is to bud the same sorts on Manetti and Briar opposite to one another, so that a visitor going down the walks would see the same Rose on each stock, and could observe its growth and judge for himself which stock suited the particular variety best. We went carefully through the seedlings and new Roses. I was very gratified at finding most of Mr. Paul's own Roses were good autumnals. I saw one or two unnamed seedlings which promise very well. One very like Madame Charles Crapelet struck me very favourably, and another from Charles Lefebvre was very good. It is at present so like that variety that Mr. Paul hesitates to send it out; he will therefore keep it at home another year. Of named seedlings as yet not sent out, one named after one of the Editors of this Journal pleased me much. Dr. Hogg is perhaps the bluest Rose in cultivation. Partaking somewhat of Pierre Notting in colour and Louis Van Houtte in form, I

shall be much surprised if the Doctor does not turn out to be an acquisition. But—truth must be spoken—the Doctor is nowhere beside the Duke of Teck. This variety is the brightest scarlet Rose yet raised. It is most vivid, and by far the best seedling from the Duke of Edinburgh I have yet seen. It is of good form and double, and of dazzling brightness, and an immense advance upon all others of this class of colour. Another Rose which cannot be too highly praised is Charles Darwin. This is one of the freest autumnal bloomers to be found anywhere. It is very dark in colour, and in form like Fisher Holmes. All the Roses I have yet named are good autumnal bloomers. To these must be added Duke of Connaught, which as seen at Cheshunt is *nulli secundus*, and Lady Darnley.

John Bright, one of Mr. George Paul's, and Magna Charta, one of Mr. William Paul's, will not bloom in the autumn at Cheshunt, and I shall see whether they will do so at Waltham Cross.

One of the new French Roses of last year is a good autumnal bloomer and a valuable light-coloured Rose; it is called Comtesse Adèle de Murinais, and is very like Mrs. Rivers in colour and form. Sultan of Zanzibar, the grandest of all Mr. Paul's children, is also a good bloomer at this season, and Cheshunt Hybrid keeps him company. With regard to this last-named Rose, I may say that Mr. Paul no longer calls it a Tea, but classes it and two new French Roses of this year as Hybrid Teas, and as such they will appear in his new catalogue. It remains, therefore, for secretaries to decide whether they will allow Hybrid Teas to appear in a box of Teas and Noisettes.

Of new or comparatively new Roses noted for their true perpetual character I noticed Sophie Fropot, somewhat like Laelia in form and colour, and Madame Gabrielle Tournier. Mr. Turner's Oxonian and Mr. Laxton's Empress of India are also both good bloomers now; so are Emily Laxton and Duke of Connaught. This Rose may be described as truly splendid both in form, which partakes of the Charles Lefebvre character, and in colour, which is scarlet veined with purple, and it is also one of the freest bloomers in autumn. Abel Carrière and Duchesse de Vallombrosa are also good Perpetuals, and Capitaine Christy one of the best, also that grand Rose Jean Liabaud. Of older varieties most conspicuous are the Bourbons. Modèle de Perfection, Bourbon Queen, and, in fact, all the Bourbons, are splendid at this time of the year.

Of the Hybrid Perpetuals of the darker varieties I should unquestionably say that Annie Wood is the best, and of the lighter ones La France. Henri Ledechaux, a grand autumnal on the Dog Rose, will not do on the Manetti. Duke of Edinburgh, Madame Victor Verdier, and Charles Lefebvre are also fine Roses in August and September. Of the true rose-coloured varieties Edouard Morren and Paul Neyron are the best; good also are Abel Grand and Auguste Rigotard. Dr. Andry, that grand old Rose, is also a fine and free bloomer now. Marie Baumann and Alfred Colomb possess this as well as all other virtues. The very dark varieties, Abel Carrière, La Rosière, Camille de Rohan, Louis Van Houtte, and Pierre Notting, are all Perpetual. Marquise de Castellane, Marie Finger, Dupuy Jamain, and Royal Standard, all these are good. Among the lighter shades Comtesse de Serenye, Princess Mary of Cambridge, Bessie Johnson, Mrs. Bellenden Kerr, which is the finest Rose of the Middle Bonnaire stamp, are all good bloomers at this season, as are also Boule de Neige, Baronne de Rothschild, and Princess Beatrice.

All the Teas with the exception of Souvenir d'Elise are good free bloomers, but the most noticeable are Belle Lyonnaise, Madame Berard, Rubens, Madame Falcot, Safrano, Marie Van Houtte, and Souvenir d'un Ami.

Of the Noisettes Céline Forestier, Triomphe de Rennes, Rêve d'Or, and Solfaterre are the best, but all the Noisettes do well except Cloth of Gold.

I could mention many more, such as Jean Cherpin, Prince Arthur (Mr. Cant's seedling), and Sénateur Vaisse, but I am afraid to occupy more space with a list of names. I have given a list sufficiently large for any amateur grower to choose from. I can assure him that if he will order any of those above named he will have true Perpetuals, and will enjoy a feast of Roses in autumn. Many people have no chance of seeing Roses till late in the year. The rich and great are in London when the summer Roses bloom, and except at Rose shows they never see a Rose; but in August and September they are far from the madding crowd and can enjoy their flowers. They come at a time when all can enjoy them, when as a rule they are less likely to be spoilt by the weather, and

their blooms, if not so numerous as in summer, linger with us longer and are more fragrant.—WYLD SAVAGE.

PUNCTURING FIGS.

THE following extract from Loudon's "Encyclopædia of Gardening" may be of use to "H. F. C.:"—"A very general French practice is to prick the fruit with a straw or quill dipped in olive oil. In Italy a wound with a knife is sometimes made on the broad end of the Fig, or a very small part of the skin of the fruit is removed for the same purpose. . . . Monck split a Fig from the eye to the stalk, and found it ripened six weeks before others which were left untouched."

All the good the puncture can possibly do is to admit air to the interior of the Fig and thereby hasten the impregnation of the flowers, which under natural circumstances does not take place till the Fig is half grown or more. The oil or spirit used may possibly help to heal the wound made. In such a treacherous climate as ours the puncturing would possibly do more harm than good, as the Fig blossom is very tender and might be expected to suffer if exposed to our low night temperatures before its natural time. Nevertheless, if there is the remotest chance for a longer succession of fruit by puncturing a portion, or by any other means, it is worth the serious and unprejudiced attention of cultivators, for when we have a crop of Figs there is generally rather more than enough of it for a week or two, and then it is all over.

In the number of this Journal for January 31st this year is a woodcut of the Fig blossom, with some descriptive matter explaining the natural method of fertilisation, and also an extract from a Naples' correspondent relative to the puncturing of the fruit. As stated above, Monck's split Fig ripened six weeks before the natural time. The natural time for ripening in this country is the end of August or beginning of September. We will say then that Monck's Fig ripened in the middle of July, and it must have been operated on some considerable time before then; we will suppose it was split in the middle of June, and if I were going to experiment on the subject I should begin at that time and carry on a series of experiments with a few fruits at a time till the end of July, fastening the date of puncture near each fruit with a label.

It must not be expected, however, that puncturing of Figs will prevent imperfect fruit falling, whatever it may do towards hastening to maturity that which is perfect. As will be gathered from the above, the fruit grows to a considerable size before flowering, and there is also a great difference in this respect with different varieties; the White Marseilles, for instance, appears nearly full grown in size before the end opens to admit air for fertilisation, and on account of its comparative late flowering it is one of the best Figs to grow in this country. When Figs fall before coming to their full size it is generally a sign that the wood has not been properly matured during the previous season. In a summer like that of last year the growth of Fig trees was not matured in any but the most favoured localities, and consequently the crop in less favoured places is a failure.

Figs grown on chalk or near the sea will generally take care of themselves, but otherwise they often require special culture, and one of the principal points is to prevent them making gross growth which they cannot mature. This is best done by confining the roots and spreading the branches thinly over a large space, at the same time avoiding cutting as much as possible.—WILLIAM TAYLOR.

VALLOTA PURPUREA AT SUMMERHILL.

THIS is one of the handsomest and most brilliant of the whole Amaryllis family, and were it more generally known that its growth is so easy and profusion of bloom so magnificent and continuous, its culture would necessarily become more extensive. It need not be stewed in a stove or parboiled in an Orchid house; it need not—should not—be potted or repotted every season; it need not, or ought not, be indebted to any other Lily, Maidenhair Fern, &c., for foliage to ornament its flower scapes when used as a cut flower. So much for some of the negative "necessities" (?) commonly believed respecting this valuable Amaryllis. The flowers are bright crimson scarlet, except in case of sports, which I believe seldom occur; and, whether used as cut flowers or for conservatory decoration, find few compeers. In this locality one of the finest collections is that possessed by Mrs. Moore, Summerhill,

and admirably grown by her assiduous head gardener Mr. Thomas Hanrahan. I have visited her conservatory, which is always a model of neatness, in midwinter and a few days since in midsummer, and on each occasion the most striking and conspicuous objects were undoubtedly well-grown bright crimson Vallotas. Other objects of interest were not absent, of which I can quote a few from memory:—*Achimenes*, *Gesneras*, *Gloxinias*, *Crotons*, *Coleuses*, *Dracaenas*, *Stephanotis*, *Hoyas*, *Ficus elastica*, *Caladiums*, *Tacsonias* intertwining with a beautiful *Cobaea*, with a well-grown collection containing many rare varieties of *Begonias*, *Fuchsias*, *Pelargoniums*, &c.

Among several specimens of Vallotas now opening into bloom I noted one, and found it was throwing up twelve flower scapes, and had on each an average of eight blooms. These were grown in an 11-inch pot, and had not been disturbed for several years. This is merely a specimen of several others, many of which had gone out of bloom, and which I understand were much better.

The effect of such a display tastefully arranged in a conservatory is unique when the flowers are fully expanded. Mr. Hanrahan has them in flower almost continuously from January 1st to December 31st, and their adaptability is remarkable. The coming display is exposed on the vinery stage to the full influence of the sun. Those to come on by-and-by are under it, and those still later required will do admirably by a south wall. In fact, were it not that they start into bloom during midwinter no extra heat would be necessary for almost any *Amaryllis*, and this, if I remember right, is the opinion of Mr. Taylor, a much better authority.

I may now conclude with a few words as to the story of its culture. If the bulb you start with is 2 inches or less in diameter, a 6 or 7-inch pot will be amply large for two or three years. The soil should be rich, and as the roots are never shaken out or extricated from it, it must be lasting. Good fibrous old loam and peat, with a fractional part of dry and rent-asunder cow manure thoroughly aerated; but for continuous use and nutriment broken bones are most necessary, as well as some nodules of charcoal. Those who may be curious enough to turn out a pot on their hands after the roots are developed will see them interlaced round and round the bones and charcoal, and when healthy the points are beautifully tinted red. Need I say those observations apply almost equally to the whole *Amaryllis* family?—W. J. M., *Clonmel*.

JUDGING MELONS.

SOME years ago, when I was in the habit of frequenting the horticultural shows at Edinburgh, Glasgow, and the north generally, there was a rule that bunches of Grapes shown for the finest flavour should be above a certain weight, $1\frac{1}{2}$ lb I think it was; and this excellent plan always secured a competition with ordinary-sized bunches instead of allowing only a few berries to be shown as a bunch. At several horticultural shows I have visited this season I have thought that those who arrange show schedules or prize lists would do well to have a similar rule with regard to Melons. It has been simply absurd giving prizes to some of the Melons which I have seen honoured this season. I have not a word to say against paying due regard to flavour, but I think size in Melons should always carry weight and be regarded as an indispensable accompaniment.

As a rule there is always large competition for Melons. In several instances this year I have seen as many as thirty fruits shown together, and nearly always with the same result—the smallest fruit first; in some cases shabby little fruit not over half a pound in weight, such as I fancy few gardeners would care to place on the table. Had I the framing of a prize list it would be stated that no Melon under 2 lbs. would take a prize. This would bring forward handsome fruits without going to extremes, and that exquisitely flavoured fruit can be had of this size is a fact well known to every Melon grower. Small Melons are no finer flavoured than large ordinary-sized fruits as a rule, only small ones ripen quicker, and no doubt it is this which gives them sometimes a little superiority in flavour; but in the end they have no more merit than larger fruit, and in all other points they are very far behind.—A KITCHEN GARDENER.

ROSES IN POOR SOIL.

EVERYONE must have read with sympathy the lament by "WYLD SAVAGE" over the soil in which he is condemned to grow his Roses. I would willingly offer a suggestion, for what

it may be worth, to ameliorate perhaps his position, but before doing so a little more specific information is necessary. What is the nature of the soil? He speaks of its cracking with drought, which suggests clay; but he also speaks of its being light and flinty. Is it clay, gravel, or chalk, retentive of moisture or dry, and of what depth, and what is the subsoil? About a year ago he asked for a substitute for farmyard manure. I suggested certain artificial compounds: has he tried them? and if so, in what quantities, at what times, and with what results? I think he has spoken of using guano; that is an excellent manure, but not a substitute for dung, because its excess of nitrogen and deficiency of potash renders it too stimulating to be used in sufficient quantities alone.—K.

OUR BORDER FLOWERS—POPPYWORTS.

THE perennial species of Poppies are not a numerous race, yet many of them are attractive. They are a family among our border flowers that are far in the background as regards cultivation, and why plants so attractive and with such gorgeous colours are not more to the front is to me a little puzzling. The taller-growing kinds, such as *Papaver orientale*, syn. *concolor*, with its monstrous scarlet flowers; *P. maculatum superbum*, and *P. bracteatum*, syn. *pulcherrimum*, are all well adapted for open spaces in large borders and in the shrubbery. When cared for they are grand objects seen at a distance.



Fig. 31.
Papaver nudicaule.

They are not at all particular as to soil, yet the places intended for their reception are all the better for being thoroughly broken up to the depth of 2 feet, the soil being mixed with good sandy loam, well-decayed vegetable matter, and coarse grit or sand, and they must have efficient drainage. When established and cared for they last many years. When the stools become large they are the better for having some of the young growth thinned out, for when left too thick the stems are liable to decay. They are increased by division in the autumn or spring when commencing growth.

There are many other beautiful kinds, none more so than those gems of alpine beauties *Papaver alpinum*, *P. alpinum album*, *P. alpinum miniatum*, and *P. pilosum*, syn. *olympicum*. Amongst these must be classed *P. nudicaule* (fig. 31), which being found only on one spot in the British Isles, must be considered as among the many plants of which it may be questioned whether they are really natives. Its flowers are as sweet-smelling as the Jonquil, emitting their fragrance especially during the cool of the morning and evening. Sir W. Hooker and Dr. Lindley have enrolled it in their catalogues of our native plants. Linnæus doubted whether it is not a variety of *Papaver alpinum*, or Alpine Prickly-headed Poppy. Being a native in great abundance of the shores and islands of the colder regions of North America, a seed may have floated to the coast of Ireland. When well grown the contrast of colours in these species is charming—yellow, white, and red.

To have the plants in perfection they must be well cultivated, and then they repay any amount of labour bestowed on them. They prefer the rocky, providing them with thorough drainage, and water when required. They are all the better for partial shade. Good sandy loam, leaf soil, peat, and charcoal dust mixed together will meet their requirements.

They may be increased by seed sown in the spring on a moist sheltered border, or by division after flowering in the spring. Care must be used in the operation of division.

All things favourable, they are equally adapted to border culture.—VERITAS.

THE AMERICAN BLACKBERRY AN ORNAMENTAL CLIMBER.

OVER a path in the garden of Mr. E. J. Sinden at Uckfield there is an arched trellis of simple curved iron rods partly covered with the growth of several flourishing young plants of a large American Blackberry. This bower is just now an attractive sight. The elegant pinnatifid foliage, always orna-

mental, gains in beauty from the large pendant clusters of glossy black fruit now hanging in great abundance over and nestling so charmingly among it. It is an arcade of great and growing beauty, always affording pleasant shade at a season of the year when shade is desirable, and now yields a valuable supply of fruit for making blackberry jelly, which is even more important from a practical point of view.

Nothing can be better than this method of training a really valuable fruit. It is a material aid to that economy of space so important in all gardens, and especially so in a small one. The fruit, moreover, is more easily picked than when the growth is permitted to ramble in a wild thicket, and the fruit is kept from contact with the soil; and yet I must confess to a wish to see wild thickets of it among bold rockwork, and also to afford it the prominent place among ornamental climbers on buildings of which it is worthy.—EDWARD LUCKHURST.

LOSS OF THE FRUIT CROP.

REGARDING the products of the earth, second only in importance to farm produce is the fruit crop, and so important is the latter that many farmers are already turning their attention to it by commencing fruit-growing. There is no effect without a cause; and especially when the effect is undesirable I habitually strive to know the reason why. If to ascertain the nature of disease in the animal world be half a cure, in the vegetable kingdom it is much the same, and, alike, a remedy is of import. To succeed in securing closer observations anywhere is something gained, and this shall be my object in the following remarks.

In the vegetable world how many there are who never consider that heat is the great parent of all increase. A sufficiency of heat accompanied with bracing air secures perfected fruit buds in autumn, and without which a favourable spring may come in vain. Heat acts by degrees; and it is not an argument to the purpose, if advanced to the contrary, that we may have fruit on the north side of a tree, whilst the south side is barren, as the south side of a tree is more subject to damage from spring frosts. As evidence of the gradual action of heat we have the fruit buds on one branch following each other as to their state of perfectness, and, without anything deteriorating in the weather, afterwards we shall have some buds set their fruit and some not, some good fruit and some indifferent; but whatever the effect, all may be traceable to the perfectness or otherwise of the fruit bud.

I will now give a few facts that have come under my own notice this present season, and which I think will tend to prove the soundness of what I am advocating. My means of testing have been ample, and personally I am quite satisfied. From my own garden I took up with the utmost care a large number of fruit trees and bloomed them under the most favourable circumstances in tubs under glass. I have also grown several other trees under exactly the same circumstances, which I have had from the Messrs. Rivers of Sawbridgeworth and from Mr. Smith of Worcester; some taken from the open ground, and some which had been grown in pots. Save two Plums (a Transparent Gage and a Victoria), an Apple (Early Harvest), and one solitary fruit of *Beurré d'Amanlis* Pear, of those subject to the cold rains we had here in the north last autumn, there has been no fruit from trees taken from the open ground. From two Worcester Pearmain Apples—that gem recently introduced by Mr. Smith—I have had fruit with which I have been delighted, grown partly under glass and set out to colour and flavour in the open air. From one small tree of *Souvenir du Congrès* Pear had from Mr. Rivers I have had six fine fruit, and from another which had only two fruit buds I have just taken—rather too early—two Pears which I wished to have ripe for our local show, the one weighing 14 and the other 14½ ozs. Of Jefferson's Plum, likewise from Mr. Rivers, I have fine fruit, whilst the Plums from the trees taken from my own garden are all more or less deformed. This clearly proves that one reason for the loss of the fruit crop here has been brought about by the undeveloped fruit buds of last season.

I shall now show that our wet autumn was not the only deteriorating influence we have been subject to; spring frosts had something to do with it, and perhaps also had cold rains, but I hardly think so. Of a row of Early Harvest Apple, from whence the one I fruited under glass was taken, there has not been one fruit, neither have I a Plum outside. With a more favourable spring those fruited inside prove that we should have had some fruit, better or worse, outside. To further show that the fruit buds here were only partly developed I will

advance one more convincing proof. I had some Apples from the open ground from Mr. Smith, which I planted in the open ground, and they are now carrying fruit. This is the more convincing, considering that the removal was not an advantage. Another proof is that Court-pendu-Plat Apple, or the Wise Apple as some call it, did not bloom till spring frosts were gone, and still I have not on thirty trees one fruit. Late varieties, of course, are more especially depending on autumn heat, and thus this variety would be more readily affected by autumn cold than others. We learn from the above facts that with an exceptional spring we may do with a previous unfavourable autumn, and that with a favourable autumn, or with the greater heat of the south of England, fruit buds can battle more successfully with an unfavourable spring.

What can we do to assist Nature under such circumstances? Drainage is one valuable aid, and of which we cannot speak too highly. The tree with stagnant dampness about its roots is in much the same predicament we are in, and much the same likely to get out of order as we are likely to do when we have permanently wet feet. As one remedy we must drain where necessary. Much has been written about allowing trees to grow more naturally. I believe in copying liberally our lessons from Nature, but I believe for all that that it is man's duty to improve—"to mend Nature." For a certainty if, say, thirty-six fruit be a full crop, then twelve fruit will be fully half the weight of the thirty-six, and perhaps be of quite as much market value. Judiciously thinning a crop is one desirable way of mending Nature. I have no objection to a tree expanding, but I have a great objection to having a tree so overcrowded that the inner branches are deprived of reasonable light and air. As another aid we must thin the branches of fruit trees liberally, and if we go so far as to protect in spring, to be of more avail we must remove our protectors each morning, or, to our discomfort, we shall find that we are simply making our blossoms so much the more tender, that when frost comes they will only stand a proportionate amount.

Since the above was written I have taken first prize in the dessert class at the Bishop Auckland Show with the Worcester Pearmain Apple spoken of, also at the Alnwick Show; and with the Pears I took second prize amongst twenty-two competitors, I unfortunately having had to set up three unripe fruit.—JOSEPH WITHERSPOON, *Red Rose Vineries, Chester-le-Street.*

CREAM PINE MELON.

THE figure and description of this new Melon in Dr. Hogg's "Year Book" led me to purchase a packet of seed, for I am quite as fond of Melons as of Strawberries. The crop was a good one, and the first fruit was ripe about the middle of August. It was only of medium size, but so heavy that I was somewhat puzzled to account for its weight of some 3½ lbs.—quite half as much more as any other sort of Melon of the same size. Upon cutting it the reason was obvious by the extraordinary solidity and thickness of the scarlet flesh and the small quantity of seed enveloped in such thick pulp as left no hollow space in the fruit. The flavour is hardly rich enough for this Melon to find favour with a connoisseur, and yet it is so sweet and juicy that it is likely to become a general favourite.

It has answered very well upon a mild hotbed in an ordinary garden frame, growing so freely and cropping so well, and also requiring so little attention, that I feel disposed next season to devote two or three frames to it in order to obtain a certain quantity of a fruit that is likely to supplement the regular supply so well.—FRAGARIA.

ALNWICK HORTICULTURAL AND BOTANICAL SOCIETY.

THIS Society held their annual Show on the 5th inst. in the beautiful grounds of Alnwick Abbey, kindly granted for the occasion since the commencement of the Society by His Grace the Duke of Northumberland. A lovelier or more romantic spot could scarcely be wished for the purpose, with the beautiful Alne meandering in its tortuous course through the grounds, and the district rich in historic associations. In addition to the many attractions that Alnwick affords the Castle gardens are kindly thrown open to the public, which is an immense boon and highly appreciated, as every courtesy is shown to visitors by the Superintendent, Mr. Ingram, and his staff. His Grace takes also a very active part in the interest of the Show. He is the patron of it, gives very liberal prizes towards it, and has provided the Society

with a sinking fund, so that it is proof beyond a calamitous or indifferent day. The Society discharges a very useful work by giving prizes to the youth of the district for attainments in botany and for collections of Algae, British Ferns, &c. His Grace further gives a portion of ground to each scholar attending the dual schools, together with prizes for the best vegetables, &c., grown there.

Apart from the above special features of the Society the Show has ranked amongst the best of the northern shows for a number of years, and may be said to be a first-rate show of vegetables and cut flowers. The collections on this occasion were arranged in a circular marquee and four tents radiating from it, which were all well filled. The framework of the tents was all festooned with evergreens, and in the centre of the marquee was a choice collection of stove and greenhouse plants sent from the gardens at Alnwick Castle by Mr. Ingram.

In the class for nurserymen and gentlemen's gardeners the first prize of £4 for eighteen Dahlias, dissimilar, fell to Mr. Oliver, gardener to Lord Ravensworth, Eslington, who staged magnificent blooms and not coarse. Second went to Mr. Carrick, Saltwell; the third and fourth to Mr. Brown and Mr. Wm. Oliver respectively. These were an imposing show: there were eight stands. For the best twenty-four Hollyhocks and best twelve Hollyhocks Mr. Thompson, nurseryman, Newcastle, and Mr. Oliver were first and second respectively; the flowers were very fine but not large. The first prize of £4 for twelve Gladiolus went to Mr. Codlin, Meldon, for fine spikes, the best being Seduction, Marquis of Lothair, Seedling (very fine), Meyerbeer, and Psyche. Mr. Charlton, Morpeth, was second with seedlings of great merit and one spike of Shakespeare with eleven expanded flowers. A section was provided for amateurs and cottagers, who staged excellent examples of the above-named and other flowers. A timepiece value £5 was won by Mr. Adams, Swalwell, for a collection of well-grown greenhouse plants.

In the class open to all for the best twelve Roses shown with their foliage the first prize went to Messrs. Mack & Son, Catterick, near York, successors to the late Mr. Harrison, Darlington. They were a magnificent twelve, fresh and large, and consisted of such flowers as Alfred Colomb, Princess Beatrice, Marie Rady, Sénateur Vaisse, Louis Van Houtte, &c.

In the plant classes the Northumberland cup, value seven guineas, for best five plants, stove or greenhouse, was won by Mr. Thompson, Newcastle, with large specimens. The competition in the fruit and vegetable classes was good and the produce was generally of excellent quality; and the collections of wild flowers and fruits, bouquets, dried Ferns, &c., attracted much attention.

The Show was well managed, but it would have been much more complete and instructive had names been attached to the several specimens and products.

GOLDEN SPIRE APPLE.

FRUIT large, conical, snouted, ribbed round the apex, and of a perfect codlin shape. Skin smooth and shining, pale straw yellow where shaded, but of a thin golden colour tinged with pale orange where exposed to the sun. Eye rather deeply sunk in a ribbed and angular basin; segments divergent and pointed, sometimes quite reflexed; tube conical; stamens basal. Stalk half an inch long, slender, set in a deep and somewhat uneven cavity. Flesh tender with an agreeable acidity, and with all the merits of a fine cooking Apple. Cells open.

A fine solid-fleshed culinary Apple, which comes into use in August, and will continue till December.

This is an Apple that must make its way as one of the favourites in small gardens, and also in orchards for the supply of the markets. Its early-bearing property, its handsome appearance, and its great excellence make it a formidable rival to Lord Suffield, Manks Codlin, and all that class. The following extract from a letter received from Mr. L. Killick of Langley, Maidstone, whose opinion on such matters is worth having, will be acceptable.

"I have grown the Golden Spire but eighteen months, and it fruited this year. You will see by your figure that it is conical; and I imagine, though not so large, that it will be as good a bearer as Lord Suffield. The wood grows very upright and the shoots are small in circumference, giving an "aspeny" appearance to the tree. I should imagine it is not a very free grower, and therefore suitable for small gardens, &c."

Mr. Richard Smith of Worcester also writes: "We have grown Golden Spire Apple for twenty years, and consider it an excellent culinary Apple. I believe I met with it in Lancashire, where it is or was much cultivated. Golden Spire is a most valuable and prolific Apple, greatly superior to Keswick, and in the same way."

Our figure was taken from a specimen gathered in the garden of C. W. Hamilton, Esq., of Hamwood, Ireland, where a small tree was completely laden with fruit, all of which was as nearly as possible equal to that figured. Mr. Hamilton informed us he had received the tree from Wiltshire. We do not know the



Fig. 32.—Golden Spire Apple.

origin of Golden Spire. Mr. Killick informs us he received his trees from Mr. Richard Smith of Worcester.

VICTORIA PARK.

PERHAPS the highest eulogium that can be bestowed on Victoria Park is that it is worthy of its royal name. Certain it is that the industrial masses residing in the east end of the metropolis have at their disposal a park of rare beauty, flower beds not excelled by any in Her Majesty's own garden, and equalled by few in the gardens of the aristocracy. But it is not to the Londoners only that this park affords pleasure, for it is inspected by visitors from all parts of the country, some seeking enjoyment—an unique floral feast for their own gratification, others gathering instruction that can be turned to account in the more efficient performance of their duties. Every day during the present month gardeners desirous of making themselves acquainted with superior examples of the most artistic mode of garden embellishment will visit the London parks, and note the plants employed and their disposition, in order that they can the better produce examples in the same style in the gardens under their charge.

It is easy to denounce what is termed carpet bedding, as easy as it is to produce coarse examples of it both on paper and on grass; but the only effect of cold-shoulder criticism is, that the artistic mode of garden embellishment referred to becomes more and more popular, and examples of it increase and improve. It is noteworthy, too, that the more this mode of garden ornamentation is practised, the more popular at the same time appear to be the hardy flowers of our borders—perennials. The London parks afford good evidence of this. Last week the mixed borders in Battersea Park were alluded to as being more beautiful and more admired than ever, and the same may be said of the semi-wild borders in Victoria Park. It is also certain that the mode of filling flower beds with dwarf-growing plants remarkable for their attractive foliage and arranged in geometrical designs, has been adopted in many private gardens during the past few years, yet not for a long time past have hardy flowering plants been so greatly cherished and so much inquired for as they are now. This may suggest that carpet beds are not in themselves satisfying. Granted. They are not satisfying, neither is it desirable that they should be; yet, notwithstanding, they are capable

of affording much pleasure, as they are of displaying real skill and chaste artistic beauty, formal, perhaps even artificial, but not the less on that account, but rather the more are the beds attractive.

Possibly the extended employment of dwarf ornamental-foliaged plants has created a want of a corresponding nature—a desire for flowers. It is certain that flowerless gardens will never be popular in England, and it is a long time since flowers—sweet and beautiful old border flowers—had so many admirers as they have now. Advanced florists have little or no sympathy with artistic flower gardening, it is too artificial. Artificial! As if it were half so artificial as their own art of plucking out and arranging the petals of one flower, curling those of another, flattening those of a third, and so on. It is easy to find fault, but not easy to do so consistently.

In Victoria Park carpet bedding is extensively and skilfully conducted. The beds are models of good taste, and worthy of a journey from one side of England to the other by those who desire to see first-rate examples of this mode of decoration. Yet numerous as are the beds referred to, let the truth be told that they do not occupy a fiftieth of the space that is devoted to hardy flowering plants—mixed borders. The mile in length of borders has been crowded with flowers for months past, and they are gay now. By the law of contrast these borders show to greater advantage the lowly and artistic beds, hence the contemporaneous increase of the two modes of garden decoration alluded to.

Yet attractive as are the mixed borders it may be safely stated that ninety per cent. of visitors to the park go for the purpose of inspecting the carpet beds. These are most finished examples of their kind. Very few kinds of plants are employed in them, and more than half of them are hardy or nearly so; but the different arrangements are chaste in the extreme, still bright and cheerful. It were futile attempting a detailed description of the beds. Nearly all of them are carpeted with the now popular *Mentha*, which is in admirable condition, brightened by Golden Feather, which is employed for forming narrow wire-like boundary lines, enclosing in some cases individual plants, and in others masses of plants of neutral colours. The scroll bed in this park is unique of its kind. It is termed the jewel bed, from the delicate tracery forming the small designs of bright colours, which show to great advantage in the emerald setting. Between this bed and the broad walk runs a low Privet hedge, but so great have been the crowds of admirers that the fence has been completely trodden down, and in places wholly destroyed, and a fence of iron is now necessary to keep the crowds off the grass. Another bed upwards of 20 feet in diameter is strikingly beautiful. The raised centre is carpeted with the rich olive-green of *Herniaria glabra* dotted with Alocs. From the centre chain-like festoons of Succulents enclose masses of *Sedum glaucum*, from which rise fine plants of the distinct silvery *Chamaecephala diacantha*; and *Mentha* and accompanying nick-nacks are bounded by bright lines of *Alternanthera* and Golden Feather, the bed being edged with Succulents. Both in design and planting this bed is a masterpiece of the art that it represents. There are other, many other, beds of the same nature, but varying in pattern and detail, all of which should be seen by those desirous of obtaining hints on this increasingly popular mode of garden decoration.

It is not difficult to account for the popularity of carpet bedding, for apart from the inherent attractiveness of the beds their beauty is infinitely more lasting than that of beds of flowers. The flower garden proper in this park was grand for a few weeks, but the rains washed away its beauty; the carpet beds, on the other hand, appear to shine brighter by the drenching they received. But although these beds may be inspected with great advantage and in a measure may be imitated, still it is not to be expected that similarly highly finished examples can be produced in all private gardens where carpet bedding is desired. In the London parks the whole resources of manager and men are devoted to the keeping of the beds, but in private gardens a hundred other wants must be supplied, and the beds can only have a share of attention. That is a condition that should ever be borne in mind when the relative merits of public and private flower gardening are under consideration.

The subtropical beds are also excellent, and indeed the whole park is in the high-class condition that merited, as it received, the high approval of the Prime Minister on a recent visit of inspection. Mr. McIntyre and the skilled gardener Mr. Bullen have good cause to be satisfied with their achievements this

year; they have set themselves a great task for the future, for of course they must go on improving.—J. W.

PORTRAITS OF PLANTS AND FLOWERS.

PHILODENDRON SERPENS. *Nat. ord.*, Aroideæ. *Linn.*, Monocelia Tetrandria.—“Imported from New Grenada by Messrs. Veitch, and well suited for the wall-decoration of a humid tropical house.”—(*Bot. Mag.*, t. 6375.)

CASTILLEJA INDIVISA. *Nat. ord.*, Scrophulariaceæ. *Linn.*, Didynamia Angiospermia.—“*Castilleja indivisa* is one of the most brilliantly coloured of the genus, its bracts, which are orange-scarlet in a young state, in age become of an intense carmine red and last a very long time; they were in beauty in the beginning of May, and continued until the last week of July, in the border of the rockwork of Kew. Mr. Thompson of Ipswich, who sent the plant to Kew, observes that it seems easy to raise and to rear, that it was grown under glass, and that the colour of the bracts would deepen out of doors (which has been the case). It is a native of Texas, and described by A. Gray as a winter annual, flowering in spring without the survival of the radical leaves.”—(*Ibid.*, t. 6376.)

ALOE COOPERI. *Nat. ord.*, Liliaceæ. *Linn.*, Hexandria Monogynia.—“The present plant was discovered by Burchell in the year 1814, in the neighbourhood of Uitenhage, flowering in January and February. It was refound in 1862, by Mr. Thomas Cooper, on grassy plains in Natal, and brought by him to this country in a living state. It has been for some time at Kew, but it has not yet flowered. The drawing was made by Mr. Wilson Saunders from a plant that flowered at Reigate.”—(*Ibid.*, t. 6377.)

GILIA BRANDEGEI. *Nat. ord.*, Polemoniaceæ. *Linn.*, Pentandria Monogynia.—“It is an exceedingly rare plant, discovered by the very intelligent and energetic collector whose name it bears, on perpendicular rocks at the source of the Rio Grande, in the rocky mountains of S.W. Colorado. It was again found by Drs. Gray and Lamborn, very sparingly, on the Sierra Blanca, in Southern Colorado, in July, 1877, at an elevation of upwards of 12,000 feet. Mr. Thompson of Ipswich raised it from Colorado seed, and flowered in May of the present year.”—(*Ibid.*, t. 6378.)

HUERNIA BREVIOSTRIS. *Nat. ord.*, Asclepiadaceæ. *Linn.*, Pentandria Monogynia.—“It was discovered by Mr. Bolus on the dry rocky hills of Ryneveld's Pass, near Graaff Reinet, in South Africa, at an altitude of 2700 feet, where it is tolerably common, and flowers in April. A drawing was made from a plant sent to Kew by Mr. Bolus, which flowered in August, 1875.”—(*Ibid.*, t. 6379.)

MARICA BRACHYPUS. *Nat. ord.*, Iridaceæ. *Linn.*, Triandria Monogynia.—“Imported by Mr. Wilson Saunders from Trinidad about the year 1871, and presented by him to the Royal Gardens several years later. With us it flowers in August, and requires stove treatment.”—(*Ibid.*, t. 6380.)

ASHBURNE HOUSE,

THE RESIDENCE OF EDWARD BACKHOUSE, ESQ.

OF the many residences of the opulent situated in the environs of our great seaport towns few excel in sylvan beauty or horticultural interest the charming retreat at Ashburne. The mansion, a noble pile of stone, stands upon a gentle eminence about a mile due south of the flourishing town of Sunderland, with its wide and clean streets, noble buildings, and small but pretty and well-kept park, which, judging from the number of persons we saw there, is appreciated, and deservedly so. Ryhope Road, by which we wended our way to Ashburne, is rendered particularly pleasing by the trees that skirt and in many places overhang it. The approach to Ashburne is by a pretty lodge through the avenue of trees, which, considering the near proximity of so large a town as Sunderland, thrive remarkably well. The principal or carriage entrance is from the north side of the house, with the customary spacious breadth of gravel, ornamented by standard Rhododendrons in tubs.

Passing the gates and traversing a walk to the left 10 feet in breadth—clean, smooth, and firm, consequently comfortable, as well as pleasing to the eye from its graceful curve and grateful colour, pale yellow—we are at once struck with the beauty that meets the eye, turn what way it may. Rhododendrons do remarkably well, being the principal evergreens, there being just enough of them to heighten the effect of the deciduous

trees, which for size and health are seldom excelled in inland grounds, while at Ashburne the sea is not more than ten minutes' walk distant. Sycamores appear to do best of all, followed by Elms and Beeches, of all which there are fine specimens; Turkey Oaks likewise thrive at Ashburne.

Ascending by winding steps the south front of the mansion is reached. The supporting stone wall of the terrace is balustraded to suit the architecture of the mansion without introducing vases at the angles, which, as we usually see them filled with Geraniums and other flowering plants, are only so many blemishes, interposing as they often do between the eye and picturesque scenery. The terrace is disposed in gravel with a flower border next the house and flower beds on grass at the east end of the house. Four Agaves disposed in tubs upon the gravel break the monotony of the balustrade, and the flower border and beds form no part of the "look-out," which from the terrace is such as few town gardens (this is, strictly speaking, a town garden) afford.

The terrace border in front of the house has a ground of *Cerastium tomentosum*, in which diamond beds are formed; planted—1, yellow *Calceolaria*; 2, *Geranium* (scarlets); 3, *Viola* Perfection, and so on throughout; 4, *Arabis variegata*, with centre of *Coleus Verschaffelti*. The corner beds of the flower garden are also amongst the neatest we have seen. The borders at the west end of the mansion are effectively planted, and the centre bed (fig. 33) is the most attractive

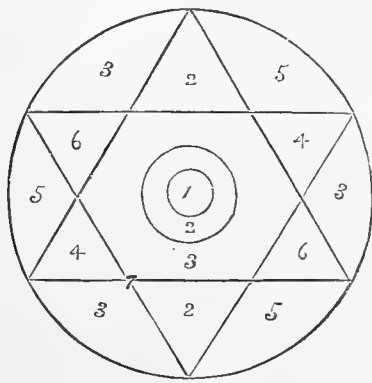


Fig. 33.

bed of its kind we have seen this season, and is planted as follows:—1, Specimen *Echeveria retusa*; 2, *Alternanthera amara*; 3, *Sedum* acre; 4, Mrs. Pollock tricolor *Pelargonium*; 5, *Lobelia* Ebor; 6, *Pyrethrum* Golden Feather; 7, All the "bar" lines and edge *Echeveria secunda* glauca.

Leaving the terrace at the west end a flight of steps lands us in front of the conservatory, a very elegant and substantial structure 50 feet in length, 31 feet in width, and 26 feet in height, having a curvilinear roof with ample means of ventilation, altogether reflecting great credit upon the builders, Messrs. J. Boyd & Son, Paisley. The pathway up the centre, 8 feet in width, is laid with encaustic (Minton's) tiles of elaborate design, with a widened centre. In the borders are many valuable plants, *Dicksonia antarctica* with 8 feet stem and a spread of fronds of 15 feet; *Date Palm* (*Phoenix dactylifera*), 15 feet over; *Chamaerops Fortunei*, 16 feet high and 12 feet through; *C. humilis*, 12 feet in height; *Dracæna australis*, 16 feet high; *D. Veitchii*, 20 feet high, both having heads upwards of 10 feet in diameter; *Araucaria excelsa*, a perfect cone, 18 feet high and wide; *Phormium tenax variegatum*, 7 feet high and 9 feet across; *Musa ensata*, with leaves 12 feet long; in addition to many other plants of like majestic proportions, such as *Alsophila excelsa*, *Scaevola elegans*, *Phoenix sylvestris*, and a good specimen of the Traveller's Tree (*Ravenala madagascariensis*), with its fine *Musa*-like leaves, the base of their footstalk being accompanied by a sheath that contains fresh water with which travellers in the plant's habitat, Madagascar and India, quench their thirst. Permanent-flowering plants are represented by *Camellias*, and the roof is clothed with *Tacsonia insignis*, *Lapagerias*, &c.; *Heliotropes*, *Maréchal Niel* Roses, and other plants acceptable from their fragrance not being omitted, *Fuchsias* decorating the pillars.

In front of the conservatory is an herbaceous garden in the form of a circle with a border all round, the centre being dis-

posed in beds in the geometrical style, and filled with herbaceous and alpine plants from the treasures of the Messrs. Backhouse & Son, York. The outer border is replete with the taller kinds interspersed with Roses, annuals (which make a charming display), and grand masses of Pampas Grass. Among the plants in beauty at the end of July were *Campanula Hendersoni*, *Calochortus luteus* var. *oculatus*, *Ajuga reptans* variegata, *Lychnis alba plena*, *L. Viscaria*, *Enothera macrocarpa*, *Phlox frondosa*, *Polygonum Brunonis*, *Statice latifolia*, *Veronica rupestris*, *Alströmmeria aurea*, *Epimedium alpinum*, *Pulmonaria sibirica*, *Saponaria ocymoides*, *Veronica saxatilis*, *Achillea umbellata*, *Aquilegia gigantea*, *Campanula trachelium*, *Dianthus deltoideus*, *Linum narbonne*, *Oxalis Bowiciana*, *Saxifraga serrata*, and *S. serrata elegans*. *Violas* Duchess of Edinburgh (white) and Duke of Edinburgh (deep blue) were noteworthy from their purity of colour, good form, great substance, and floriferous character; a splendid pair. Too much cannot be said in eulogy of this style of ornamental gardening, unfolding as it does fresh beauty from day to day. Gardens of flowering shrubs, low shrubs, herbaceous and alpine plants interspersed with annuals and other summer decorative plants, really produce a very effective display, there being always something fresh to awaken attention and keep alive interest—ever something or other to study and admire.

An octagon summer house fitted up in a very elaborate manner, embowered by trees, stands at a little distance from the walk by which we descend from the herbaceous garden to the pleasure ground, of which a capital view is had of the trees and shrubs that deck its slopes, such as Chestnuts, Purple Beeches, standard *Rhododendrons* (which being in pots can be lifted for the conservatory during bloom), *Pinus austriaca*, *Arbor-Vitæ*, Weeping Ash, Thorns of kinds, Evergreen Oaks, *Aucubas*, &c., tastefully disposed upon the turf. At the bottom of the incline we take a turn to the left, and the beauty of the place is spread before the eye in all its loveliness. Over the fountain, throwing its silvery spray, a good view of the grounds is obtained, to which the artist has done no more than justice in the accompanying engraving. From the grounds we pass over the Rhyope road to the kitchen garden, an enclosure of four acres. To the north and west are disposed a few deciduous trees which serve the purpose of ornament and shelter, yet not materially interfering with the cropping.

In this department are the principal glass structures. They are erected about the centre of the garden, and are rather extensive. The first house entered was a vinery 30 feet by 20 feet, all the vineries being of the same width and much of the same length—lean-to's. In this house were admirable examples of Black Hamburg black as sloes, the berries large; some we measured were $3\frac{1}{2}$ inches in circumference, though the Vines were close upon twenty years under cropping, the bunches being about 2 lbs. weight. Golden Hamburg was grand, Mr. Crament, the able gardener, being very successful with this too frequently condemned Grape; the bunches are large, 5 lbs. in weight, and the berries $3\frac{1}{2}$ to $3\frac{3}{4}$ inches in circumference. Mrs. Pince is represented by bunches of about 3 lbs. weight, well coloured, and without any small berries, this favourable result being attributed to working this desirable Grape upon the Black Hamburg. Splendid fruit of Black Prince and Grizzly and White Frontignan is also noticeable both in respect of size of bunch and berry. The next house contains three-year-old Vines. Lady Downe's is in capital trim; Trebbiano is 18 inches across the shoulder and 12 inches long, weight about 8 lbs.; Black Alicante, symmetrical bunches, reversed cones, 12 inches by 12 inches, weight about $4\frac{1}{2}$ lbs.; and Gros Guillaume (Barbarossa), $16\frac{1}{2}$ inches across the shoulder and 12 inches long, about 8 lbs. In this house are some old Vines of Muscat of Alexandria lifted nineteen years ago, now carrying good crops of amber-coloured fruit; the bunches are about 3 lbs. in weight. There is also Mr. Crament's seedling Grape Ashburne Seedling, which produces a bunch after the style of Alicante, averaging from 2 to 4 lbs. in weight, but when fully ripe is of the rich golden hue of Golden Hamburg, setting very freely, its bearing properties being all that could be desired, whilst it keeps as long as Lady Downe's. We had no opportunity of testing its quality, but Mr. Crament stated that he had instructions to plant a house of it, which denotes the estimation in which it is held by those best qualified to judge.

The next house contains young Vines not in fruit, but having canes like cudgels and eyes like nuts, the joints short and the foliage ample; all the foliage, lateral or otherwise, is retained that can be fully exposed to light. It is a late house planted

with Lady Downe's, Ashburne Seedling, Gros Colman, and Gros Guillaume; in pots or tubs are Auckland Castle and Negro Largo Figs carrying a second crop of fine fruit. The next house is Lady Downe's carrying a splendid crop of very even-sized bunches and berries without a trace of scald. The last house in the range is planted with Madresfield Court in capital order without a "flaw" of any kind. Mr. Crament tells us it does best on the Black Hamburg stock, and he has good reason for that opinion. Champion Muscat is fine and exceedingly well coloured. Calabrian Raisin has bunches 15 inches by 18 inches; but Duke of Buccleuch is not held in high esteem at Ashburne. We noticed that there were no scorched leaves and no trace of insects, that fermenting material had been employed for starting the Vines in some of the houses, the borders outside were wider than usual, and though the surface showed a neat loose appearance it was only so much skim to hide the rich top-dressing beneath; very

copious supplies of water are given to the Vines, and the roots are encouraged to the surface of the borders.

Behind the vineries were 250 plants of *Azalea indica* vars. in various sizes from the bush of 2 feet in diameter up to the pyramid of 5 feet by as much through at the base, all clean and healthy and well set with buds. The plants had canvas stretched on laths to protect them from the midday sun. Hundreds of *Chrysanthemums* in 10-inch pots were trained to one stem, and very strong and healthy they looked. There was also a quantity of dwarf *Chrysanthemums* in 8-inch pots named Perpetual White; in July the plants were well set with flower buds, and they bloom profusely in September, and are then very useful. *Sedum Sieboldi* with its pink flowers is grown in quantity for conservatory decoration in late summer.

In the stove, 50 feet by 24 feet, is a number of useful decorative plants, such as *Aralia gracillima*, *Campsidium filici-*

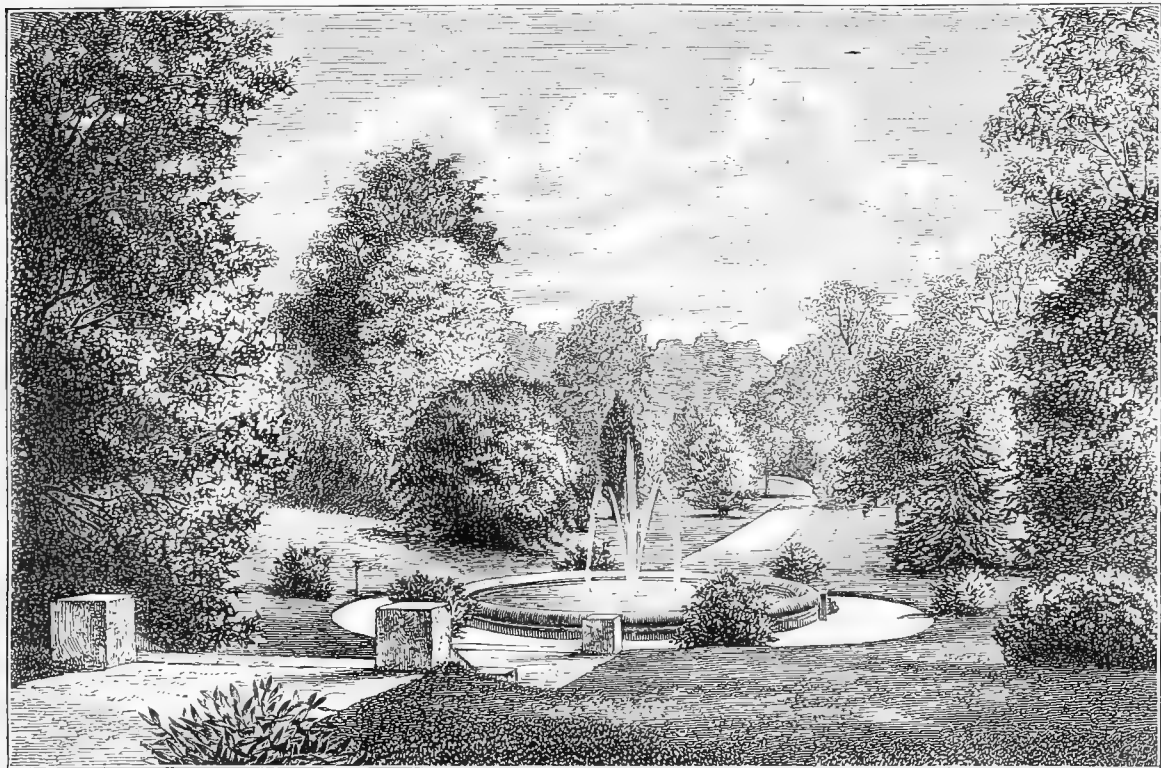


Fig. 34.—ASHBURNE HOUSE—VIEW IN PLEASURE GROUNDS.

folium, *Maranta Marnockiana*; *Dracenas amabilis*, *Chelsoni* and *Baptisti*, *Cocos Weddelliana*, *Croton majesticus*, *C. Weissmanni*, *Pandanus Veitchii*; Palms such as *Livistonia altissima*, *Areca sapida*, *Latania borbonica*, *L. aurea*, *Dæmonorops fissus*, and many others. Specimens—*Alocasia Veitchii*, 6 feet high and 4 feet over; *A. metallica*, 4 feet through; *Cycas revoluta*, 6 feet across the fronds; *Cocos Weddelliana*, 5 feet through and 6 feet high, and many others. In fine condition are *Musa Cavendishii*, *Bambusa stricta*, *Crotons*, *Anthurium Schertzerianum*, *A. crystallinum*, *Bougainvillea glabra*, *Stephanotis floribunda* and other flowering plants; also Ferns useful for cutting from, notably *Adiantum gracillimum*, &c.

In a long border are hundreds of East Lothian Stocks, which are very fine in spike, flower, and continuance, the perfume being delicious. Winter-flowering Heaths and Epacris were in cold pits or frames, healthy plants, promising well for bloom. In a cold pit we were shown *Todea superba* in splendid condition, having a spread of fronds of 4 feet; also other "Filmies," the secret of success being to keep them cool and sprinkled overhead three or four times a day.

A low span-roofed house is devoted to *Poinsettias* on one side, and on the other were *Eucharis amazonica*, *Pancratiums*, and the ever-flowering and very sweet *Tabernaemontana coronaria plena*, *Allamanda Wardleana*, *Dipladenias Brearleyana*,

amabilis, and *splendens*, all in good condition. Another span-roofed house is devoted to Orchids, among which we noticed good examples of *Odontoglossum Bluntii*, *Cœlogyne cristata*, *Oncidium macranthum*, a variety of *Cattleyas*, *Lælias*, *Phalænopses*, *Cypripediums*, besides *Nepenthes* in all the best varieties, and a fine *Adiantum farleyense*, 4 feet through, in very good colour.

In the Peach house, 30 feet by 18 feet, was a capital crop of fruit just ripe, consisting principally of Royal George and Noblesse Peaches and Elruge Nectarine; next to which is the greenhouse of about the same size, the roof being partly covered with *Maréchal Niel* Rose, from one plant of which three hundred blooms were cut this season; and the other part of the roof is occupied with *Lapagerias rosea* and *alba*. The stages were very gay with zonal *Pelargoniums*, *Fuchsias*, *Tuberous Begonias*—what a fine show they make! and a number of other plants. Time forbade our noticing the *Cucumber* and *Melon* pits, and taking more than a cursory survey of the kitchen garden, which appeared well cropped and very neat—indeed, we saw no weeds anywhere; but there, as in the pleasure grounds, everything appeared to the best advantage from the neatness and order that prevailed. Fruit crops outdoors appeared to be thin. To Mr. Crament we would, in conclusion, tender our thanks for his courtesy, and have only

to say that his skill as a cultivator is abundantly testified by his works.—G. ABBEY.

NOTES AND GLEANINGS.

THE double Show announced to open at the CRYSTAL PALACE on the 24th inst. cannot fail forming an exhibition of great magnitude. No prizes are this year offered by the Directors for flowers, the fixture being presumably too late for insuring superior Dahlias, Asters, &c. The prizes for fruit are very good and numerous, third prizes being included, and already a considerable number of entries has been received. This being the only autumn show of fruit near London it is expected it will prove a very good one. The International Potato Society's Exhibition to be held in conjunction is sure also to be an extensive one. Prizes are provided by many trade growers and others desirous of promoting the superior culture of the newer varieties of Potatoes. The past gatherings of the Society afford a tolerably sure index that the forthcoming tournament will be worthy of extensive patronage.

— THE DUNDEE HORTICULTURAL SOCIETY'S SHOW that was held on the 5th inst. was a display of considerable magnitude, and was altogether a great success. The Exhibition was opened by the Earl of Camperdown, who, in the course of an admirable address, remarked that "At the present time, when Art is gradually taking the place of Nature, when the beautiful is gradually receding before the useful, and when toil is lord and when smoke is king, this of all times is the time when we can least afford to give up the cultivation of flowers." There was excellent competition in the plant classes, and many fine specimens were staged. The £10 prize for twelve plants was won by Mr. A. Roberts, gardener, Dornoch, Aberdeenshire; the prize of the same amount in the nurserymen's class being awarded to Messrs. John Stewart & Sons. Messrs. Laird and Sinclair, Dundee, were successful exhibitors, and an extensive and valuable collection of plants was staged by Messrs. Ireland and Thompson of Edinburgh. Fruit was generally good, Mr. McDonald, The Gardens, Kimmethies, securing first honours in the collection of eight varieties; and for four varieties of Grapes Mr. Reed, The Gardens, Rockfield, won the first position. The display of vegetables was very extensive and fine, Mr. Neil Glass, The Gardens, Carbrook, being awarded the first prize for ten varieties. An exhibition of BEES, HONEY, AND WAX was also held on a very extensive scale, and was largely patronised. The officials of the Show are to be complimented on an Exhibition that was so satisfactory and well managed.

— "W. J. M., *Clonmel*," describes the following method of PROPAGATING THE *FICUS ELASTICA* successfully practised by Mr. Lonergan at Birdhill. Take a shoot, readily obtained from an old cut-down plant, say 4 or 5 inches long; trim off the lower leaves, and if succulent a few hours on a greenhouse shelf will be an improvement. Procure a round wide-mouthed bottle, and place in it pure rain water with a few pieces of charcoal in the bottom. Properly suspend your cuttings in this, and plunge into the warm water of a tank in the stove. In the instance referred to roots were emitted in one week, and the plants were potted in a fortnight, and are now 3 feet high three months after the cuttings were inserted, and have splendid foliage.

— THE autumn Show of the HORTICULTURAL SOCIETY OF GLASGOW was held on the 4th inst. The entries numbered upwards of two hundred more than at any previous show, and the Exhibition was a very imposing one—especially in the section for plants and cut flowers. There was also an admirable display of fruit and vegetables. A. B. Stewart, Esq., the President of the Society (Mr. Todd gardener), contributed greatly to the value of the Show by the numerous and splendidly grown specimens that he exhibited. Messrs. Smith and Simons, and Mr. McKenzie also contributed valuable collections. Mr. Robertson, Helensburgh, won the chief prize for Gladioli with splendid spikes, as may be imagined when such skilled cultivators as Messrs. Galloway & Graham had to play second fiddle. Mr. McConnochie, Cameron Gardens, won Messrs. Ferguson & Forrester's prize for ten dishes of fruit; and Mr. McBean, The Gardens, Craigend, Johnstone, secured the President's prize for a collection of vegetables. The Society is now upwards of a hundred years old, and it is pleasing to observe that vigorous efforts are being made to extend its influence and to place it in a position to be increasingly useful in the important district of which it is the centre.

— IN the nurseries of Messrs. J. Laing & Co. at Forest

Hill a fine plant of *CYCAS REVOLUTA* is flowering. The pale green mop-like cluster in the centre of the plant has a singular appearance. It is more than a foot in diameter, and seeds are forming freely. The plant has a stem about 4 feet in height and nearly a foot in diameter. The new seed rooms, bulb stores, and offices of the firm, rendered necessary by the increasing business, are now completed. They are commodious, well finished, and admirably adapted for the conducting of a large business. In one of the houses is a grand display of Tuberous Begonias, and hundreds of plants are also flowering freely in the strong clay soil of the nursery.

— AT the last meeting of the SCOTTISH HORTICULTURAL ASSOCIATION Mr. A. McKinnon, Melville Castle Gardens, read an excellent paper on the culture of the Peach. He described its early history and introduction into this country and referred to the many difficulties that attended the growing of Peaches in northerly latitudes, and concluded by stating that after taking into account all the facts of Peach culture it was necessary to have a glass house heated to ensure a crop each season. An animated discussion followed the reading of the paper, some of the members contending that artificial heat was not needed in ordinary seasons to produce a crop each side, citing instances of failure and success with and without the application of artificial heat. Mr. John Davidson of Messrs. Dicksons & Co. next read a paper on the culture of fruit trees generally pursued in the nurseries. After speaking of the ignorance that generally prevailed on this subject he detailed the system of budding and grafting, mentioning the different stocks required for different trees and the adaptability of certain stocks for various soils, and urged the more general planting of fruit trees for profit. Mr. Robertson Monro made a few remarks on autumn-flowering *Chrysanthemums*, exhibiting twelve sorts at present bearing a profusion of bloom. Miss Hope, Wardie, sent some beautiful flowers of *Dianthus atro-purpureus* raised from the Chiswick strain of seed. Messrs. Downie & Laird exhibited two fine new *Phloxes* named Lady Belhaven and Mrs. Bowyer. Mr. John Brown, Dalkeith, exhibited a wonderful growth of a Rose from a cutting inserted on April 27th this year. Mr. Wm. Black exhibited a curious *Lobelia* with blue and white flowers on the same plant. Mr. McLauchlan exhibited and explained the working of one of his verge-cutters. Mr. A. McIntosh, Paxton House, received a certificate for an excellent new round Potato named Premier White of unexceptional quality.

— OUR CORRESPONDENT "A KITCHEN GARDENER," who has also the charge of a very fine flower garden, writes, "We have just been arranging how the beds and figures in our flower garden will be planted next summer. Now is the time when this can be done properly, as any imperfections in the arrangements of the colours or heights of the plants can be seen much better now than in imagination next year at bedding-out time. By arranging the flower garden the previous season the whole can be made perfect; at least we have always found it to be a most convenient plan, and advise any of your readers who have not practised it to begin at once."

— MR. ATKINSON informs us that he recently saw a handsome SPECIMEN OF *ARAUCARIA IMBRICATA* in the garden of Mr. Douston, Settlebeck, Jedburgh. It is twenty-eight to thirty years of age, and its height is 23 feet 7 inches, girth above the lawn 4 feet 10 inches, girth at 5 feet above the lawn 2 feet 9 inches, and the total diameter of the branches is 22 feet. It is a fine specimen, though not so high as some others noted in the Journal. A thrush had built her nest in it this year about 5 feet above the ground, and it was taken possession of by some small bird when she was hatching the second sitting of eggs.

WORK FOR THE WEEK.

KITCHEN GARDEN.

THE late crops of vegetables are now progressing rapidly. Weeds, too, owing to recent rains are appearing in great numbers, and are growing freely. Those that are advanced to the seeding state should be cleared off by hand before hoeing, as when the weeds are large hoeing and afterwards raking them off is an unsatisfactory mode of riddance, especially if the weather be at all showery. Hand-weeding may be tedious, yet it is not in showery weather unremunerative, as a few days at this time of year suffice to mature the seeds of such quick-growing weeds as Groundsel, and that plague on light soils Chickweed, which if allowed to ripen now cause much trouble and annoyance in future seasons. In all favourable weather ply the hoe amongst all growing crops, which is undoubtedly the best implement for

destroying weeds whilst they are in the small seedling state, but hoeing in wet weather is only so much labour lost. Potatoes are becoming diseased in some localities. Take up in favourable weather those that have the skins set, and if the haulm be infested it is better to pull up the tops and burn them before lifting the tubers, always avoiding placing large quantities of Potatoes together in a wet state. Onions which have been taken up and exposed for a time should be stored away thinly on shelves in a dry cool room, stringing the firmest bulbs so that they may be removed to cooler quarters, so as to prolong the season when the weather is becoming warmer in spring. Do not neglect the thinning of late Turnips, Winter Spinach, &c., as they require all the light and air possible to mature the growth. If any pits or frames are at liberty they may be planted with Lettuces or Endive for winter use. They will root much better and endure more wet than those lifted when of larger size and placed in frames after the weather is cold and wet. The forwardest clusters of Tomatoes as they show indications of ripening should be cut and suspended in a dry airy house. The removal of these clusters will assist the maturing of the later fruits.

French Beans.—Make a sowing in pots, placing six beans in a 9-inch, and eight in a 10-inch pot, three-quarters filling the pots with rather strong turfy loam, draining the pots sufficiently, covering the beans from half to an inch deep, placing the pots as near to the glass as possible so as to keep the plants dwarf, earthing-up after the seed leaves are fully formed. They cannot have too much light, and should have a temperature of 60° to 55° at night, 65° to 70° by day rising to 75° or 80° with sun and free ventilation. Mohawk, Osborn's Forcing, Sir Joseph Paxton, Sion House, and Fulmer's are all good forcers, but we prefer the two first named varieties.

MUSHROOM HOUSE.

We would again suggest the desirability of forming beds for the winter supply with all dispatch, and also to the collecting of material for successional beds. Particulars for preparing the material and making-up the beds are given at page 185. The best plan of collecting the material is to place a barrow under cover so that the droppings can be placed directly in it; but where this is inadmissible the opportunity of shaking over any stable litter during dry weather should not be neglected, shaking all the droppings into a heap together, not being very nice about a little straw and its particles, as they not only increase the bulk but assist in drying the droppings and to maintain the bed in a slow and regular decomposing condition. If the compost is wet it must be dried so as not to decay too speedily, but form a warm fibrous material for the spawn to run in, hence the necessity of keeping the material dry from the first.

FRUIT HOUSES.

Vines.—The earliest Vines should be pruned at once, as advised in a former calendar. It is not necessary to wait till all the leaves have fallen before pruning, only the wood must be brown and hard and the leaves turning yellow. The pruning will cause the Vines to go more quickly and thoroughly to rest. It is important that the house be thoroughly cleaned and the Vines also. Any weakly Vines or those in an unsatisfactory state may be improved by removing the soil down to the roots and replacing with fresh turfy loam with an admixture of a tenth of old mortar rubbish and a fifteenth part of half-inch bones, lifting any roots available for the purpose, laying them out upon the fresh compost, and covering them not deeper than 6 inches. This is best performed before the fall of the leaf. It is a mistake to allow Vines when at rest to become very dry at the roots; comparative dryness is desirable, yet great injury is caused by allowing the soil to become dust-dry, especially Vines in pots which are to be started in November; those for that purpose being now completely at rest, the wood thoroughly ripe, the laterals cut close home, and the canes shortened to about 6 feet, more or less according to the situation of the plump eyes. Whilst the cuts are dry dress them with styptic or "knotting" to prevent further trouble from bleeding. They should be kept in a cool airy house. The borders of the earliest houses—i.e., the outside borders, should have a covering of some kind to protect the roots from the heavy autumn rains, which reduce the temperature considerably. Glass lights are every way preferable, throwing off heavy rains and allowing the sun's heat to penetrate the soil. We, however, with many others, are obliged to be content with a covering of leaves and litter after the weather sets in cold; and though convinced that good Grapes can be produced without material to throw off the rains, yet reason and practice justify their employment wherever available for the exclusion of moisture in undue proportions to the requirements of the Vines.

Late Grapes, whatever may be said to the contrary, keep much better when the roots are not chilled by the autumn rains; therefore tarpauling, shutters, or thatched hurdles should be held in readiness for use when required, avoiding, however, their unnecessary use. Grapes ripening will require a dry warm atmosphere with a free circulation of air, keeping the laterals well stopped, which if allowed to grow cause damp and decay of the berries and excite root-action. Ripe Grapes should be looked over frequently for the removal of shanked or decayed berries.

Wasps are very troublesome this season; scrim canvas placed securely over the ventilators excludes them better than anything we have tried.

Young Vines, especially those that have made a strong growth, are late in ripening and should be assisted with fire heat, maintaining a minimum of 65° and maximum of 75° from fire heat, continuing it until the wood is ripe, accompanied with free top and front ventilation. Similar remarks apply to late Grapes not yet ripe. Ventilate freely and maintain by artificial means a temperature of 75° to 70°, falling a few degrees during the night, discouraging any further growth by the removal of the laterals as they are produced.

Peaches and Nectarines.—In the earliest forced houses it is undesirable to allow the borders to be too much saturated and cooled by the autumnal rains, therefore houses from which the lights have been removed should have them replaced as soon as the rains occur, admitting, however, full ventilation top and front. In the latest houses it may be desirable, if the autumn be cold and wet, to assist the ripening of the wood with a little fire heat, admitting air abundantly, and cutting out the bearing wood of the current season so as to admit light and air to play freely about next year's fruiting wood, remembering that a crowding of the foliage only tends to immaturity, so that if the shoots are too thick thin them well out, it being better done now than at the winter pruning, of which little ought to be required in the case of trees grown under glass. A good syringing will occasionally be required to free the foliage of red spider, but avoid anything approaching to a confined moist atmosphere, yet affording copious supplies of water to the inside borders, so as to prevent premature falling-off of the foliage.

Cucumbers.—With shorter days the cold of the nights increases, which necessitates the earlier closing of the house, and the employment of the syringe also earlier, so as to have the foliage fairly dry by dusk. Fire heat will also be necessary to maintain a temperature of 75° to 70° by artificial means, falling about 5° during the night. Afford every encouragement to the autumn fruiters, removing the first fruits, also the male blossoms and tendrils. No shading will now be necessary, and avoid morning syringing, damping being sufficient. Sow at the middle of the month for a supply of fruit at Christmas onwards. Telegraph (one of the best), Osmonston Manor, and Duke of Edinburgh (Munro's) are suitable varieties. Any sorts difficult to secure seed of may be increased by cuttings, placing them in a brisk bottom heat and covering with a hand or bell-glass until rooted, as they will be in about ten days.

Melons.—The last batch will be well up the trellis and showing blossoms. If the crop be wanted quickly these early blossoms should be impregnated. A portion of the plants may have the first fruits removed, and will afford a later and fuller crop from the second laterals. Earth-up the plants after the fruit is set, not before; and after this be sparing of the syringe, employing it only during bright afternoons, and then early, taking care not to overwater at the roots, yet maintaining a genial moisture in the atmosphere by sprinkling; promote also healthy root-action by proper moisture in the soil. Plants in frames will require no more damping overhead, and should only have sufficient moisture in the soil to keep the foliage from flagging, keeping it rather thin and the fruit elevated above it on inverted flower pots, applying good linings so as to finish off the ripening satisfactorily, which requires a warm, dry, well-ventilated atmosphere.

PLANT HOUSES.

Stove.—In removing stove plants from conservatories care must be taken when they are returned to the stove not to excite them into growth, which from the higher temperature they are likely to be; seeking rather to prevent growth by withholding water so as not to injure the foliage, and by keeping the atmosphere drier than during the summer. This more particularly applies to Allamandas, Bougainvilleas, Clerodendrons, Ixoras, &c., that have ceased flowering; but plants that were started late in the season will continue flowering for some time yet, and at no time are they more acceptable than in late summer and autumn. Many of the freest-flowering stove plants do best in an intermediate house in winter, whilst others, as Ixoras, require a higher temperature. The temperature should now be 65° to 60° at night, 70° to 75° by day from fire heat, with an advance from sun heat of 10°, ventilating freely. In dull weather damping twice a day will be sufficient, syringing early in the afternoon any plants in growth so as to have the foliage fairly dry before nightfall, but any plants going to rest need not be syringed. Shading except for very tender foliage plants will not longer be required. The blinds should be thoroughly dried and stowed away. The glass both inside and outside should be well cleaned, as the plants require after this all the light that can be given them.

Orchids.—The temperature should still range from 75° to 85° by day in the East India house, maintaining it until the end of the month, when a gradual reduction must be made, for the present keeping up a growing atmosphere, giving every possible encouragement to Aërides, Saccolabiums, and Phalaenopses. The blocks, baskets, and pots must be damped in the morning, and the plants will be benefited by being syringed on the afternoons of

bright days. Shade as little as possible, only sufficient to prevent the sun scorching the foliage. Dispense with shading altogether in the Cattleya house, thoroughly cleansing the glass inside and outside in order to afford all the light possible, it being very important to have the growths well ripened. All pseudo-bulbous plants having completed their growths should have an increased amount of air, but no change in the treatment of Orchids should be brought about suddenly. *Cattleya citrina*, *Laelias acuminata*, *albida*, and *majalis* should be thoroughly exposed to light, placing *Laelia purpurata* and *Cattleya Mossiae* in the warmest part of the house to enable them to complete the growth as soon as possible. *Calanthe vestita* and *C. Veitchii* may have weak liquid manure, as the stronger the pseudobulbs are the stronger will be the flower spikes. See that scale is kept from the leaves. *Calanthes Masuca* and *C. veratrifolia* may be repotted if not already done. *Odontoglossums* that started late into growth may be shifted into larger pots without disturbing the roots, or as little as possible. In order to have the growths of Orchids well matured before the dull days the plants should be exposed to as much sun now as they will endure without injury, for unless the growths be well matured the plants will not flower satisfactorily.

TRADE CATALOGUES RECEIVED.

B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, London, N.—*General Bulb Catalogue and Lists of New Plants, Fruit Trees, Roses, &c.*

New Plant and Bulb Company, Lion Walk, Colchester.—*Catalogue of Lilies, Orchids, and Miscellaneous Bulbs.*

Webb & Sons, Royal Seed Establishment, Wordsley, Stourbridge.—*Illustrated Catalogue of Dutch Flower Roots, &c.*

Daniels Brothers, Royal Norfolk Seed Establishment, Norwich.—*Illustrated Catalogue of Bulbs, Fruit Trees, Roses, &c.*

John Laing & Co., Stanstead Park Nursery, Forest Hill, London.—*Catalogue of Bulbs, Roses, Hardy Plants, &c.*

TO CORRESPONDENTS.

. All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

ADDRESS (R. G.).—Write to Kent & Co., High Holborn, London, who can probably supply you with what you require.

DESIGNS FOR FLOWER BEDS (W. A. and S.).—"The Parks and Gardens of London," ss. 5d., post free from this office, contains many designs and modes of planting flower beds effectively.

PROTECTING FRUIT (C. Allen).—As all your scares fail to frighten the birds and you cannot shoot them, your only remedy is to cover the trees with nets.

POTATOES (J. B.).—The produce you mention is large. Our correspondent wishes to be told of a furniture oil that will destroy and prevent worms in woodwork.

PRESERVING APPLES AND PEARS (Zephyr).—We store them thinly in a rather cool and dark place. Mr. Cannell, Swanley Nurseries, Kent, can supply you with the list you require.

VINES OVER-LUXURIANT (A Nine-years Subscriber).—The Vines being young no great injury can have been done by neglect in stopping the shoots. Set to work at once and cut away all the laterals to within three or four leaves of the rods or canes, and any subsequent growth they may make stop at the first leaf, and the rods cut back to the top of the rafter. This will admit light, and by continuing the fire heat and ventilation until the leaves turn yellow there is no reason why the wood should not ripen perfectly. See notes on young Vines in this week's "Work."

PROTECTING TREES FROM CATTLE (Cartoon).—The most suitable are wrought-iron tree guards 6 feet high and 2½ feet in diameter in the centre, with flat bars upright, so that cattle or horses cannot get their heads through the bars and eat the trees. Their price is about 2½s. each. Standard trees only are suitable, having straight clean stems and well-formed heads. Beech must take precedence of all trees upon a chalky soil, and should be planted most extensively, the Purple-leaved also succeeding, and the Fern-leaved though a much smaller tree is very ornamental. English Elm, Chichester or Huntingdon Elm, Horse Chestnut, scarlet-flowered Horse Chestnut, Lime, red-twigged; Scarlet Maple, Norway Maple, Sycamore (this with Beech for the most exposed positions), variegated Sycamore, Scarlet Virginian Maple, Turkey Oak, Scarlet Oak, and Mountain Ash are all ornamental trees.

MENTHA PULEGIUM GIBBAITARICA (Juno).—This valuable green carpet-bedding plant is hardy, yet it not infrequently suffers by excessive wet during winter and spring, especially if it is planted in large masses. A good mode of wintering it is to plant very small tufts of it now on a dry south border, placing two or three rooted sprays together and about 3 inches apart in rows 6 inches asunder, or at such other distance that a small hoe can be run through the ground between them as required. The tufts should not be more than half an inch across in November. If much larger many of the plants are almost certain to damp-off. In very wet soils and districts the plants should be conveniently disposed for receiving the shelter of spare sashes, frame lights, or handlights. The Ivy-leaved Geranium is *L'Elegante*. It may be placed out of doors in summer, but colours best on the shelf of a light greenhouse, the plant not being overpotted.

BEES ATTACKING PEACHES (Zero).—You have no remedy against your neighbour, for you cannot prove that the bees which attack your fruit are his, and if you could it would be difficult in a court of law to prove trespass against the bees.

PEARS CRACKING (Gardenia).—Your soil is probably sandy and poor

where the Pear tree is growing. If you take away some of the present soil and replace with a rich compost it will improve the tree. Or the roots may have got into an ungenial subsoil, in which case dig a trench round the tree and cut away all tap roots tending downwards. We are sorry we cannot assist you with plans of flower beds, these depend so much on position and surroundings; but if you will send us the plans we will advise you how to plant them.

EGG PLANTS IN GREENHOUSE (S. S. T.).—At this season of the year Egg Plants do very well in a greenhouse provided they are not placed where there are sharp currents of air, such as near the ventilators; but the plants must be grown to a fruit-bearing state in a closer, warmer, and moister atmosphere than that of a greenhouse. The shelf of a stove or a dung-heated frame is necessary for growing the plants well until they nearly arrive at maturity. They must be watered copiously yet carefully, and syringed frequently to keep down red spider, with which the plants are especially liable to become infested.

ROSE CULTURE IN A CLAY SOIL (Pierre Nolting).—We consider the failure of your Roses is attributable to faults of soil and not of climate. Drainage, mechanical division, and plenty of rich stable or farmyard manure are the prime movers in the successful treatment of such soil for Rose culture. Make drains of 2-inch pipes 4 feet deep and 20 feet apart, then spread a layer 6 or 8 inches deep over the surface of any hard gritty matter. There is nothing better for the purpose than coal ashes, and if you cannot get enough of them take road scrapings, stone chippings from a mason's yard, or, better still, if there should be any old buildings in course of demolition near you, get all the old bricks and mortar you can and pound them to pieces of the size of a walnut. Spread a layer of equal thickness of manure upon the grit, and then trench the soil 18 inches deep, taking pains to mix the grit and manure with the whole of the soil as it is turned over and chopped to pieces. After this is done lose no time in marking the stations with stakes, putting in a stake for every Rose, and working a little more manure and coal ashes into each station to insure a good start, and that no water shall accumulate about the roots. Seize a favourable opportunity in November for planting when the soil is not too wet; secure each Rose to its stake, but put no dung, litter, or mulching of any kind upon the surface over the roots, as is done so advantageously in light sandy soils, for the greater the exposure of such heavy soil to frost, sun, and wind the better for the soil and the plants growing therein.

PRUNING DOUBLE FUZZE (An Irish Subscriber).—As a mass of beautiful golden flowers is usually required, the plants should have such pruning as they require as soon as possible after the flowers fade. At this season of the year only irregular growths should be shortened. The price given for clipping hedges varies in different districts. In Lincolnshire and Yorkshire the men usually earn 3s. per day at such work.

MARÉCHAL NIEL FOR GREENHOUSE (W. P. M.).—We should make a rich deep station for the Rose outside the house, and train the growth inside after the manner of a Vine. We have a Rose thus planted that gives us hundreds of grand blooms yearly. Perhaps your plant outside is too closely pruned. This Rose always flowers most freely from shoots made late in the summer.

LAVERNE FROM CUTTINGS (E. B.).—Slips 3 or 4 inches in length, or cuttings of the same length inserted now in sandy soil under handlights, will strike readily. Slips will also strike if inserted firmly in the sandy soil of a shady border. The white-foliaged plant is *Cineraria maritima*. Cuttings inserted now in sandy soil in pots placed in a frame and kept partially shaded will strike. The other plant is a *Sedum*, but we cannot determine the species as the spray was much crushed. It may be increased readily by cuttings treated the same as *Geranium* cuttings, or by division of the roots in the spring.

GRAPES DECAYING (J. I. C.).—Cut out decaying and moulded berries promptly, promote a drier atmosphere, and ventilate efficiently; also apply a little fire heat during cold nights to prevent the berries becoming cold and thereby condensing the moisture on their surfaces. The same treatment will arrest the scalding of which you complain. The minimum temperature of the house should not be lower than 55°, with a little ventilation at the top of the house at night.

PREPARING GROUND FOR POTATOES (Robertson).—The part you do not propose planting with Potatoes next year may be occupied with any description of vegetable crop excepting "roots," but for alternating with Potatoes a cereal crop would be preferable, such as Wheat, Barley, or Oats. The part required for growing Potatoes next year should be manured in autumn and then ploughed or dug-in. In March, or so soon as the soil is in good working order, cross-plough or drag and dress with lime at the rate of eighty bushels per acre, and harrow lightly. No manure to be given at the time of planting; and as the ground has long been under Potatoes, it is probable that a dressing of lime only without the manure would improve the quality of the tubers.

PRUNING SHRUBS (Idem).—This is the worst time of the year for cutting back overgrown evergreens or other description of shrubs. Any irregularities of growth may be cut in now, but not so as to denude the plants of too much foliage. Defer the cutting-back until the close of March or beginning of April, and even then if the shrubs are old and much overgrown it is doubtful if they will break satisfactorily from the old wood.

BRITISH PLANTS (Scintion).—The following list will perhaps meet your requirements:—*Achillea Millefolium* rosea, *A. tomentosa*, *A. Ptarmica* flore-pleno; *Aconitum Napellus*, *Acorus Calamus*, *Agrimonia Eupatoria*, *Ajuga reptans*, *Alchemilla alpina*, *Anchusa ochroleuca*, *Anemone nemorosa* flore-pleno, *A. Pulsatilla*, *Antirrhinum majus*, *Aquilegia vulgaris*, *Arenaria lariofilia*, *A. verna*, *Arneria maritima*, *Asarum europæum*, *Asperula odorata*, *Betonica officinalis*, *Caltha palustris* flore-pleno, *Campanula glomerata* var. *alba*, *C. latifolia* var. *alba*, *C. patula*, *C. Rapunculcus*, *C. rotundifolia* var. *alba*, *C. Trachelium* var. *alba*, *C. Cardamine pratensis*, and double and purple and white vars., *Cheiranthus fruticulosus*, *Colchicum autumnale* var. *flore-pleno*, *Convallaria majalis*, *Corydalis lutea*, *Cypripedium calceolus*, *Dactylis glomerata* elegantissima, *Dianthus cæsius*, *D. deltoideus*, *Epilobium angustifolium*, *E. hirsutum*, *Epimedium alpinum*, *Erigeron alpinus*, *Fragaria vesca* fol. var., *Fritillaria meleagris*, *Galanthus nivalis*, *Gentiana acaulis*, *G. verna*, *Geranium lancastriense*, *G. pratense* and vars. double blue and white, *G. sanguineum*, *Hepatica triloba*, *Hypericum calycinum*, *Lathyrus latifolius*, *L. pratensis*, *Lotus corniculatus*, *Lycynis diurna* plena, *L. Flos-cuculi* plena, *L. Viscaria* plena, *Lysimachia nummularia*, *Lythrum Salicaria*, *Myosotis palustris*, *M. sylvatica*, *Orobanch niger*, *Primula acaulis* and many vars., *P. elatior*, *P. farinosa*, *P. scotica*, *P. veris*, *Prunella vulgaris* laciniata,

Pulmonaria officinalis and var. *alba*, *Pyrethrum parthenium* vars. *flore-pleno* and *aureum*, *Pyrola media*, *P. rotundifolia*, *Ranunculus acris* *plenus*, *Salvia pratensis*, *Saxifraga aizoides*, *S. caespitosa*, *S. cernua*, *S. decipiens*, *S. denudata*, *S. elongata*, *S. elegans*, *S. Geum*, *S. granulata* and double variety, *S. Hirculus*, *S. hirta*, *S. hirsuta*, *S. hypnoides*, *S. incurvifolia*, *S. letevirens*, *S. leptophylla*, *S. muscoides*, *S. nivalis*, *S. oppositifolia*, *S. platypetala*, *S. stellaris*, *S. umbrosa*, *Scrophularia nodosa* *variegata*, *Sedum acre*, *S. albescent*, *S. album*, *S. anglicum*, *S. dasyphyllum*, *S. Forsterianum*, *S. glaucum*, *S. micranthum*, *S. oblongum*, *S. reflexum*, *S. rhodiola*, *S. rupestre*, *S. sexangulare*, *S. Telephium*, *S. villosum*, *Sempervivum tectorum*, *Silene acaulis* and var. *alba*, *S. maritima* and var. *flore-pleno*, *Solidago virgaurea*, *Spiraea Filipendula* and var. *plena*, *S. Ulmaria*, *Statice bniervosa*, *S. nana*, *S. rariflora*, *S. reticulata*, *Stellaria Holostea*, *Stipa pennata*, *Symphytum officinale* fol. var., *S. tuberosum*, *Tanacetum vulgare* *crispum*, *Teucrium Chamædrys*, *Thalictrum alpinum*, *T. minus*, *Thymus citriodorus* *aureo-marginatus*, *T. Serpyllum variegatis*, *Trifolium repens* *pentaphyllum*, *Trollius europæus*, *Tussilago Farfara* *foliis variegatis*, *Verbascum nigrum*, *Veronica Chamædrys*, *V. hybrida*, *V. spicata*, *Vinca major*, and *V. minor*. Many are in cultivation. For height, time of flowering, and colour consult a catalogue.

INSECT (*J. Weaver*).—We cannot name any insect unless we see a specimen.

NAME OF FRUIT (*J. M.*).—Duncan.

NAMES OF PLANTS (*L. W.*).—1, *Adiantum pubescens*; 2, *Panicum variegatum*; 3, *Pteris serrulata*; 4, *Fittonia argyoneura*. (*Rev. E. C.*).—*Fuchsia coccinea*. (*J. S. E.*).—*Acer Negundo variegata*.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

THE CULTIVATION OF WINTER TARES OR VETCHES.

UPON certain soils winter vetches are an important fodder crop, and they may be styled a preparatory crop in the rotation adopted upon different soils. The cultivation may be considered comparatively trivial and inexpensive. Under ordinary farming few farmers ever think of doing anything for them except merely ploughing, sowing, harrowing, rolling, &c.; but upon the home farm where winter vetches are to be grown, and if not in high condition, manure should be applied. The land should be quite clean before ploughing and sowing, for if only a few bunches of couch grass or docks appear they should be forked out by hand, and thus save the extra horse labour. In the event of a considerable quantity of couch being in the soil a short fallow will be necessary, the best plan being to rafter or half-plough the land and then scarify across the rafters, which will lift out the couch and enable it to be dealt with by the usual process of dragging, harrowing, and rolling. The best implement of the drag kind we have seen is that recently invented and manufactured by Howards of Bedford, and named the improved self-lifting drag-harrow, with bud tines covering $4\frac{1}{2}$ feet of ground. This is an admirable implement, and upon all land after ploughing and undergoing the fallow process it is calculated to supersede all other drags or scarifiers on account of its easy draught and effective working. No home farm should be without it, as it is useful for many purposes in ordinary cultivation.

Vetches may be drilled if only for the purpose of burying the seed better, and it is usual to sow two bushels of vetches and one bushel of rye per acre upon that portion which is intended for the earliest use, whether for sheep-feeding or for cutting-up to feed horses, cattle, &c. The portion required for second early purposes may be seeded with the same quantity of vetches with one bushel of winter oats per acre. The portion required for the latest use should have, in addition to the same quantity of vetches, one bushel per acre of White Tartarian oats, for this kind of oat will bear the weather of an average winter; and as they are the latest sort with which we are acquainted they will remain in good condition for cattle as long as the vetches are available. The object of sowing corn with the vetches is for the purpose not only of protecting them during the winter months, but also to hold them up from off the ground, in which case there is not so much waste when fed off by sheep, and the vetches retain their soiling value longer for cattle and horses. We are aware that upon some light land hill farms sowing corn with the vetches is objected to; but there is no objection we have ever heard of when sown upon loamy or mixed soils. It is said, and perhaps with some truth, that upon certain poor and light soils the

growth of cereals in connection with a pulse crop interferes with the well-doing of the corn crops which follow. There is, however, a far more serious objection to vetches when grown upon either chalk hill land or light gravels, and we have often heard it designated as poison to the succeeding crops, although the vetches may have been fed-off by sheep eating oilcake at the same time. We have always thought that the mischief arises from the peculiar way in which vetches root in the land, and have often observed the numerous and minute white rootlets that completely intersect the soil whereon vetches have grown. From this circumstance it is that upon light gravelly, chalky, or sandy land, the soil which was already too light and porous is made still more so by the decaying fibrous roots of the vetches, and this is in some of our driest seasons fatal to the root crops which follow.

There is, however, another side to the picture, because our experience has shown us that upon heavy land this peculiar rooting of the vetches has a beneficial effect upon clay or strong soils. The rootlets of the vetches search the soil in every direction and make it pervious to air and water after the decay of the roots, and this is one of the reasons why vetches are recommended as a double crop with beans, the former intersecting the soil with surface roots, whereas the latter dive down into the subsoil with a single taproot. In this way a capital preparatory or fallow crop is produced, not only valuable in its own produce, but providing for the succeeding wheat or barley crop in the most economical and efficient manner. The sowing of vetches upon strong soils raises an important question, it being the only way in which sheep can be profitably and advantageously fed on the fallow break. Upon light and dry soils we can grow capital roots to be fed-off by sheep in the autumn and winter months; but upon strong flat-lying land this cannot be done, for upon such land at such a time of year the tread of the sheep would be positively injurious, whereas upon the light soils it is the best known provision for cereal produce.

We will now refer to the advantages of vetches fed-off in the summer months, so that as fast as the land is cleared it may be resown with mustard, the value of which is, that it may be either fed with sheep, or, if the season is too wet for folding, the crop may be ploughed under as a preparatory crop for wheat. We have often seen a crop of mustard as high or higher than the hurdles, so completely buried in the act of ploughing, that to a common observer it would not be known a green crop had been grown thereon. This is done best by the use of the skim coulter with a short chain and iron weight attached to the plough, which drags the green crop down and buries it so entirely as to resemble a fallow. Thus with vetches fed-off and mustard succeeding either fed by sheep or buried, we have one of the finest preparations known for wheat upon strong land; and when the sheep have eaten cake whilst feeding no further manuring is required, and the land may then be ridged-up and sown at the first and earliest opportunity, which is so essential to the production of a full crop of wheat upon strong and difficult tillage land.

Vetches are sometimes sown as a crop to be harvested. We, however, cannot recommend it with confidence to the home farmer, for notwithstanding the crop itself often proves valuable, and although the land would be kind and mellow after the crop has been harvested, yet it is an exhausting crop as regards the manure question, and the haulm of vetches is rarely obtained in such condition as to make it of consequence as cattle fodder. In this latter respect it will not bear comparison with a crop of peas, especially if an early sort is selected, for it is somewhat against seeding vetches that the harvest is usually later. It must be admitted, however, that winter vetches are often dear, sometimes from 10s. to 12s. per bushel, at which price they pay well for growing. The pulse or grain of vetches is of good feeding value for cattle, horses, and pigs, and in their composition and feeding properties they very much resemble lentils, which contain a large amount of flesh-forming materials. In the event of a wet harvest, if the vetches were injured for seeding purposes they would still

have a large feeding value, for we have known them when cheap purchased for feeding sheep and cattle, and mixed with linseed cake. Both vetches and cake, however, should be reduced to meal, and in feeding it is then best and most conveniently mixed with cut roots without any waste.

Sometimes where winter vetches are grown for the purpose of cutting-up for cows as a soiling crop only, and a succession of food required, Italian rye grass is often sown in the vetches, and when the vetches and rye are drilled at 9 inches it offers a good opportunity for sowing the Italian grass in the early spring, and horse-hoeing the land between the rows with narrow hoes to bury the seed. This is a plan more approved than sowing Italian grass with summer tares, because they are more apt to suffer from a blight called red rust than winter vetches. It is, in fact, very rare to see a crop of winter vetches suffer from blight, especially when rye or oats are sown with them as above directed, for it protects them and shelters them from the effect of blighting winds. We find many hill farmers dissatisfied with the growth of vetches, and only grow them for the want of a substitute, as they are so much approved as food for young lambs, having a change of saintfoin once a day. But we can with great confidence recommend a rotation for summer feeding without the vetches—viz., first rye, then trifolium three sorts, and some also spring-sown to be followed by turnips, and upon all these green crops mangolds may be used and preserved during winter and spring on purpose to assist the lambs whilst feeding on these crops, and saintfoin to the exclusion of winter vetches entirely, without deteriorating the preparation of turnips.

WORK ON THE HOME FARM.

Horse Labour.—In order that this may be set out in due course it is necessary that the rotation of cropping upon the home farm should be decided on, the sooner the better, as nearly as circumstances will permit. The most general rotation is the four-course—viz., first, roots; second, Lent corn or spring wheat; third, clover or grasses; fourth, wheat. This is in many parts of the kingdom a sort of customary rotation upon light kind soils, and it is very simple and comparatively easy to carry out if the manager understands the ordinary practical working and stocking of the land. But we cannot recommend this course of cropping upon a farm of really good land, which will bear a much severer course and yield more profit; but to those who are rather inexperienced the four-course rotation offers a good opportunity for the easy conducting of a farm. When once it is decided what rotation shall be pursued the work should now be laid out for the horses, and immediately after the harvest is complete. We will, therefore, consider the four-course system to have been decided on. In this case the first work will be, if any portion of the land coming in for roots is foul with couch grass, to at once commence a course of autumn cultivation, and, if steam power is available upon the farm or can be obtained by hire, to immediately begin the working of the land. Whether horse power or steam power is used avoid by all means, when there is much couch grass, ploughing the land; but instead of ploughing to scarify and break up the ground both lengthways and crossways a few inches in depth. In the event of sufficient horse labour being attached to the farm the dragging, harrowing, rolling, &c., should proceed immediately after the scarifier, and as soon as the grass, &c., is brought to the surface. It is a common practice to burn the grass and weeds as soon as it is quite free of the earth. This is a question of dry weather. We therefore prefer to diminish the labour of preparing the couch for burning by carting it away at once, although a portion of earth may be attached, and this may be done independent of the dry weather requisite for burning. If drawn to a heap when it becomes rotten it makes good manure for meadow land, and also a valuable article upon the farm for various purposes, such as placing at the bottom of pigsties, cattle pens, &c. Without being heaped at all, it may be drawn direct from the field and laid out upon any meadow or pasture land which has been closely fed, and if spread directly and after a short time chain-harrowed it will sink into the land and improve the herbage immensely. We have often tried it in comparison with farmyard dung, and found it quite equal in produce of grass, and superior in improving the quality of the herbage.

After the grass has been carted away the land may remain to be deeply ploughed after the wheat season is over, and fallowed for roots in the spring. Any portion of the roots lain which is quite clean should at once be seeded with trifolium on the corn stubble and dragged in, chain-harrowed, and left rolled. The seed required will be not less than 20 lbs. per acre, and three sorts for a succession may be sown. Rye for early sheep food or cutting up for cattle should now be sown, but the land should be ploughed, and a dressing of $1\frac{1}{2}$ cwt. of Peruvian guano may be applied with the best results. It will bring the rye very forward, and the manure not used up by the rye will be available for the succeeding root crop. The next crop generally sown for a fodder crop is winter vetches, but these need not have any manure applied as they may receive nitrate of soda in the spring if it is requisite to force them on early.

Hand Labour will still be various, for it will be quite necessary

in many cases to give the mangold crop another hand-hoeing, and in case of showery weather continuing we like to pick up the weeds and heap them in the field by women or boys, to be carted away when the roots are cleared in the same way the Swedes and common turnips will require to be treated. In many cases during the harvest and the delay caused by heavy storms it has been quite impossible to do the work necessary for root culture at the proper time.

Hedge-trimming, too, must be done, for this work is often delayed until the corn crops are cleared, and where the hedges consist of whitethorns the sooner it is done the better. We always prefer the early part of July for this work; if delayed until autumn the wood becomes hard and difficult to trim so closely as is really requisite. When fences are composed chiefly of high wide banks growing wood of various kinds it is not so important, but these should be done before Michaelmas; and where they are not required as fencing against horned cattle the wood may all be cut close to the bank, so that in the spring of the year the grass and weeds, together with the young shoots of wood, may all be cut together, and furnish good food for cattle and pigs.

FAMOUS POULTRY YARDS.—No. 2.

COMBE ST. NICHOLAS VICARAGE (REV. HANS F. HAMILTON).

(Continued from page 197.)

WE will now endeavour to describe Mr. Hamilton's chicken house. It is a magnificent structure, resting against a stone wall that forms its back; the front is entirely of glass lights like a greenhouse; the upper part of the back too is of glass, for it rises higher than the wall. Ventilation is secured by sliding windows in both front and back. The roof is tiled, but lined underneath with felt to keep it warm. The whole building is 75 feet long and 12 broad, and is divided into five compartments. It is so constructed that should Mr. Hamilton tire of the poultry fancy it may be easily adapted to horticultural purposes. The floor is dry—a perfect run for early chickens. Yet let us not be mistaken: though we have never ourselves had such a model house for early broods we once watched the growth of chickens in a similar one of a friend, and observed that they require to be moved when six or eight weeks old to less luxurious abodes or they outgrow their strength. At present it is put to an excellent purpose. Various fine Brahma and Dorking hens were sitting on the ground, among them one Brahma with wonderful pencilling; hens left thus to amuse themselves moult early and well. Each of the five compartments opens into a separate spacious orchard run sloping southwards, hurdling and wire netting divide them. In one of these were by far the best Dark Brahma pullets we have seen of late; lovely Silver-Grey birds in perfect condition, not of the weedy form we generally see with fine pencilling, but large, deep-bodied and heavily feathered.

Hence we somewhat retraced our steps, and passed down a pretty path leading through a shrubbery from the vicarage to the church. On the left was a gate, and through this seven charming runs quaintly irregular in shape, most of them well sheltered with shrubs and low-growing wood. The sheds are thatched and some of them very rustic; several are so arranged as to give access to more than one run: this struck us as being a great merit of Mr. Hamilton's arrangements, that from so many of the houses the birds can be turned out into one run while another is freshening. We peeped into one shed untenanted by birds, where was a pretty sight, an intelligent-looking Colley surrounded by her family. In another run was a late Dark Brahma cock of last year, a splendid fellow for which we augur many prize cards in the season. We have always had great faith in the worth of some late chickens allowed to run at ease for a year or more. The last two runs have no sheds at all, but veritable houses. Mr. Hamilton has ingeniously adapted two old-fashioned thatched cottages for poultry below and Canaries above. In one of the runs connected with them were four grand Dark Dorking hens, in the other a Dark Brahma cock of the Ansdell strain and a mixed troop of chickens, chiefly Dark Brahmas. The first part of the house we entered had apparently once been a barn; on one side are a row of exhibition pens, and underneath them a row of larger pens for moulting birds; along the beams are nailed many cards the signs of cups and prizes. The lower room of one cottage is devoted to sitting hens, that of the next is a roosting house. We scaled the queer old stairs, and there in perfect luxury were some wonderful Belgian Canaries. All live stock in the establishment is highly bred, and here we saw some of the best birds that Mr. Hamilton could procure in Antwerp. They seemed thoroughly to appreciate the quiet of their cottages, and we must say we at once longed to bring cottages into use for our feathered collection. But we must pass on. Back through these sheltered runs, we cross the church path and emerge at the bottom of the large orchard runs before described; with them on our right hand we pass along a smooth grass lawn at the bottom of the orchard, untenanted by birds at present and devoted to archery. Here behold the quaintest of all poultry houses, a disused omnibus! after many a jolt at last quietly grounded and well felted above, and a comfortable quarter it looked.

POULTRY.—DORINGS—Coloured.—Cockercels.—Cup, J. Taylor. 2, H. Lingwood, 3, F. Parlett. **Pullets.**—1, B. Smith. 2 and 3, T. C. Burnell. *Any other variety.*—Cockercels.—1, T. C. Burnell. 2, Miss Pasley. 3, O. E. Cresswell. **Pullets.**—1, W. Biddle. 2, Mrs. Wachser. 3, T. C. Burnell. **COCHINS.—Cinnamon, Buff, and Partridge.—Cockercels.**—Cup and 2, Lady Gwydyr. 3, R. R. Fowler & Co. **Pullets.**—1 and 2, Lady Gwydyr. 3, C. & E. Taylor. *Any other variety.*—Cockercels.—1, Mrs. Lang. 2, Lady Gwydyr. 3, R. Fowler & Co. **Pullets.**—1, The Hon. H. Chas. Sidgwick. **BRAHMS.—Dark.—Cockercels.**—1 and 3, R. A. Baker. 3, E. Lloyd. **Pullets.**—1, E. Kendrick jun. 2, H. J. Storer. 3, J. Gilbert. **Light.—Cockercels.**—1, H. Lingwood. 2, G. B. C. Breze. 3, P. Haines. **Pullets.**—Cup, R. P. Percival. 2, G. B. C. Breze. 3, A. Ives. **GAME.—Cockercels.**—Cup, T. P. Lyons. 2, J. Colegrove. 3, W. Adams. **Pullets.**—1, Hon. and Rev. F. Dutton. 2, J. Colegrove. 3, G. Bell. **TRAPS.—Cockercels.**—Cup, J. K. Calcutt. 2, K. Calcutt. 3, J. Carr. 3, H. Pickles. **Pullets.**—1, J. Calcutt. 2, H. Pickles. 3, J. Carr. **Gold and Silver-spangled.—Cockercels.**—Cup, S. W. Hallam. 2, J. Jackson. 3, T. Pope. **Pullets.**

—1, J. Carr. 2, S. W. Hallam. 3, G. Randall. *Black-Cockerels*.—1, P. Hinde. 2, J. W. Kellaway. 3, C. Sidgwick. *Pullets*.—1, Stott & Booth. 2, J. W. Kellaway. 3, C. Sidgwick. *SPANISH-Black-Cockerels*.—1, J. F. Dixon. 2, J. F. Silittle. 3, J. R. Rodbard. *Pullets*.—1, J. Aldridge. 2, Bithray & Tronnce. 3, J. F. Silittle. *LEGHORNS-White-Chickens*.—1, T. Norwood. 2, Bradbury Bros. 3, R. R. Fowler. *Brown-Chickens*.—2, R. Strong. *HOUDANS-Cockerels*.—1, W. H. Coppelstone. 2, S. W. Howard, jun. 3, J. Till. *Pullets*.—1, R. A. Boissier. 2, W. Hamlyn. 3, W. H. Coppelstone. *FRENCH-Any other variety-Cockerels*.—1, R. Pound. 2, L. Ward. 3, R. R. Fowler & Co. *Pullets*.—1, G. W. Hibbard. 2, C. Sedgwick. 3, Mrs. Williams. *SILKES-Cup and 3, Mrs. Holmes*. 2, W. E. Hunt. *ANY OTHER VARIETY-Cockerels*.—1, T. Lecher. 3, A. Stevens. 2, J. B. W. Williams. *BANTAMS-Game-Cup and 2, W. F. Entwistle*. 3, F. C. Davis. *Any other variety*.—1 and 2, Rev. C. F. Tearle. 3, Mrs. Holmes. *DUCKS-Aylesbury-Cup and 3, R. R. Fowler*. 2, J. Hedges. *Rouen*.—1, J. Gee. 2, W. H. Coppelstone. 3, W. Nicholls. *ANY OTHER VARIETY OF WATER-FOWL*.—1 and 2, A. W. H. Silvester. 3, T. M. Derry. *SELLING CLASSES-Dorkings, Cochins, and Brahmas-Cock or Cockerel-Cup, R. R. Fowler & Co.* 1, G. B. C. Breeze. 2, H. Stephens. *Hen or Pullet-Cock or Cockerel*.—1, J. F. Silittle. 2, H. Stephens. 3, J. Colegrove. *LOCAL CLASSES-Dorkings, Cochins, or Brahmas-Cock or Cockerel*.—1, J. Turner. 2, Mrs. Holmes. 3, Miss J. Milward. *Hen or Pullet-Cup, W. C. Drummond*. 2, J. Turner. 3, Mrs. Holmes. *Any other variety-Cock or Cockerel*.—1 and 2, J. Hunt. 3, C. Curtis. *Hen or Pullet*.—1 and 3, Mrs. Holmes. 2, Bolton.

PIGEONS—CARRIERS-Cock-Cup, J. Chandler. 2 and 3, J. Baker. *Hen*.—1, T. Weeks. 2, Mrs. Holmes. 3, J. Chandler. *POTTERS-Cock*.—1, A. P. Byford. 2, J. D. Lang. 3, Mrs. Holmes. *Hen-Cup, J. Baker*. 2, A. P. Byford. 3, J. D. Lang. *BARBS*.—1 and 2, J. Baker. 3, T. Weeks. *TUMBLERS-Short-faced-Cup and 2, J. Baker*. 3, J. F. Barnes. 2, H. Hunt. 3, R. Woods. *DRAGONS-Blue or Silver*.—1 and the R. Woods. 2, J. Baker. 3, W. Massey. *Any other variety*.—1, 2, and 3, R. Woods. *ANTWERPS-Short-faced*.—1, H. Yardley. 2, H. W. Weaving. 3, T. S. Kemp. *chc, C. M. Southwood. Homing-Cocks*.—1, G. Webster. 2, J. Chandler. 3, S. Wade. *Best Bird*.—1, G. Webster. 2, J. Robertshaw. 3, J. Baker. *OWLS-English*.—1, J. Barnes. 2, W. H. Weaving. 3, J. Baker. *TURBITS-Blue or Silver*.—1, T. C. Burnell. 2, J. Baker. 3, C. Parsons. *chc, G. Webster. Any other colour*.—1, R. Woods. 2, A. E. Crossley. 3, J. Baker. *JACOBINS-Red or Yellow*.—1, T. C. Burnell. 2, J. D. Lang. 3, J. Andrews. *Any other colour*.—1, T. W. Swallow. 2 and 3, J. Baker. *MAGPIES*.—1, T. Weeks. 2, J. Baker. 3, R. Woods. *ANY OTHER VARIETY*.—1, T. W. Swallow. 2, H. Jacob. 3, H. Yardley. *chc, R. Woods, C. Parsons. Young*.—1 and *chc, Mrs. Holmes*. 2 and 3, J. Baker. *LOCAL CLASSES-Carriers and Pouters*.—1, Mrs. Holmes. 2, W. H. Smith. 3, E. Strotter. *Turbits, Ouls, and Barbis*.—1, J. Allen. 2, Mrs. Holmes. 3, Mrs. Allen. *Nuns, Jacobins, and Tumblers*.—1, R. H. Walters. 2, J. James. 3, G. J. Goddard. *Any other variety*.—1, J. Allen. 2 and 3, Mrs. Holmes. *Selling Class*.—1, J. Barnes. 2, H. Haddrell. 3, W. Cayless, *jun. chc, W. D. Richardson. Special Flying Class*.—1, Withheld. 2, J. L. Burgess. 3, H. O. Moody. 4, H. Allen.

CAGE BIRDS—CANARIES—Belgian, Clear or Ticked Yellow-Cup and 2, Rev. H. F. Hamilton. 3, Mrs. Drummond. *Belgian, Clear or Ticked Buff*.—1 and 2, Rev. H. F. Hamilton. 3, A. S. Hiscocks. *Norwich, Clear Yellow or Buff*.—1 and 2, C. J. Salt. 3, *chc, J. Hopkins*. *Norwich-Variegated Yellow or Buff*.—1 and 2, C. J. Salt. 3, J. Hopkins. *Norwich, Crested Yellow or Buff*.—1 and 2, C. J. Salt. 3, J. Hopkins. *Cinnamon, Yellow or Buff*.—1 and 2, W. Barrell. 3, J. Hopkins. *Cage of Six*.—1, J. Hopkins. 2, C. J. Salt. 3, R. Bages, *jun. Selling Class*.—1, C. J. Salt. 2, J. Hopkins. 3, J. Bross. *GOLDFINCH MULE-Variegated*.—1 and 2, C. J. Salt. 3, J. Hopkins. *LOCAL CLASS*.—1, Withheld. 2, Mrs. Drummond. 3, Mrs. F. Richards. **BRITISH BIRDS—Goldfinch, Linnet, or Bullfinch.—1, Mrs. Holmes. 2, Mrs. Drummond. 3, Withheld. *Any other variety*.—1, S. Cook. 2 and 3, Mrs. Holmes. *chc, Mrs. E. A. Goddard*. 2, Mrs. Holmes. *ANY OTHER VARIETY-Cage of Six-Cup, Mrs. E. A. Goddard*. 2 and 3, Mrs. Holmes. *chc, Mrs. Drummond*. 2, Mrs. E. A. Goddard. *Grey Parrot*.—1 and 3, Mrs. Holmes. 2, Mrs. E. A. Goddard. *Love Birds*.—1, Mrs. Holmes. 2 and 3, Mrs. E. A. Goddard. *Macaw or Cockatoo*.—1, Mrs. Drummond. 2, H. Cross. 3, Mrs. E. A. Goddard. *Parrot or Parakeet*.—1, Mrs. Drummond. 2 and 3, Mrs. E. A. Goddard. *chc, Mrs. E. A. Goddard*. 2, Mrs. F. Richards. 3, Hussey. *E. M. Franklin. Any other variety than Cockatoo, Parrot, or Macaw-Cup, Mrs. Drummond. chc, Mrs. Drummond, M. E. A. Goddard*.**

RABBITS—LOP-EARED-Self-coloured-Cup and 2, T. & E. J. Fell. 3, J. Robertshaw. *chc, W. H. Adams. Tortoiseshell*.—1, J. Robertshaw. 2, W. C. O. Ellis. *chc, A. & T. Paine. Yellow-and-white*.—1, J. Robertshaw. 2, A. Atkinson. 3, A. Leighfield. *Any other colour*.—1, C. E. Thomson. 2, C. S. Perry. 3, E. J. Fell. *chc, W. H. Adams. T. & E. J. Fell. ANY OTHER VARIETY-Cup, T. & E. J. Fell*. 2, J. Robertshaw. 3, H. J. Field. *Extra 3, J. Foster. chc, J. Robertshaw*. 2, T. & E. J. Fell. *G. Coles. HIMALAYAN*.—1, J. Sheil. 2 and *chc, J. Robertshaw*. 2, T. & E. J. Fell. *ANGORA*.—1 and 2, J. Robertshaw. 3, E. Robinson. *chc, R. A. Boissier. Mrs. Crook. J. Robertshaw. T. J. King. BELGIAN HARE*.—1 and 3, E. Robinson. 2, J. Robertshaw. *chc, H. Sturt*. 3, C. Kimberley, *jun. T. & E. J. Fell, H. Newland. DUTCH*.—1 and 3, J. Foster. 2, J. Robertshaw. *chc, J. Foster. J. Robertshaw. ANY OTHER VARIETY*.—1, T. & E. J. Fell. 2, E. Robinson. 3, J. Robertshaw. *chc, F. R. Nunn. SELLING CLASS*.—1, J. Hunter. 2, E. Robinson. 3, J. Robertshaw. *chc, W. C. O. Ellis. J. Foster, H. Ball, F. J. R. Nunn, G. J. Goddard, T. & E. J. Fell, H. Field*.

POINT CUPS. For the winner of the most points in Poultry, Pigeons, and Cage Birds—Mrs. J. T. Holmes, Bath. For the winner of the most points of Rabbits—J. Robertshaw, Thornton, Yorks.

JUDGES.—Poultry: Rev. G. F. Hodson. Pigeons: Mr. Tegetmeier. Canaries: Mr. W. A. Blakston. Rabbits: Mr. W. A. Allison.

HALIFAX AND CALDER-VALE POULTRY SHOW.

THIS Show was held at Halifax on the 31st ult., and was the fortieth Show held at that place. The entries in poultry and Pigeons were much larger than in any previous year.

Game headed the list with Black Red cockerels, the first and second were very good, the rest very poor; but, on the contrary, the pullet class was good, the first being a very correct bird in all respects. Brown Red cockerels were bad, but the pullets very good. Ducking cockerels were a fair lot, but pullets were also better in this case, the first a good one in all respects. Pile cockerels were young but promising; the best of this variety was the first-prize pullet. *Spanish* had only three entries, but the winners were about perfect. *Dorkings* five entries, and very good. *Cochins* very good, and in fine order; the cup for the best pen in the Show, Game or Game Bantams excepted, was awarded to a pen of Buffs, to which we preferred the Partridge or Spanish. In *Brahmas* first were Dark and second Light. *Hamburghs* were good, and mostly in fine feather. Game Bantams competed with the large Game for a cup and were a much better section, almost

every bird being good, the cup going to a most perfect Black Red cockerel in full feather.

Pigeons numbered 290 as against 80 entries last year, nor did the quality fail in the least when considered in proportion, the exhibits proving so good that very few were left unnoticed. Pouter cocks headed the list with some good birds, the cup in the first section being awarded to a Blue Pouter cock. Carrier cocks were a grand lot, first and second Blacks and third Duns, and the whole class highly commended. In hens first and third were Blacks and second Dun, and these were quite equal to the cocks. In Barbs first was a Black cock, and one of the best young birds we have seen in real back properties; the second, also Black, was close upon the first. Tumblers (Almond) were also good, the first hen and second cock a very close run; the third also a good hen. Short-faces of any other variety were—first a nice Yellow Bald, second Red Mottle, and third an Agate. In Dragons, of which there were three classes, there were some very good birds, while others were quite as wide of the true standard of a Dragon. Jacobins were very good; first and third Red, and second Yellow, the cup for this section being awarded here. Turbits were divided into two classes, and were very good, although many failed in the style of spike, which in many cases was set on far too low. English Owls were provided with four classes, but many of the best birds were quite ragged in moult, and not fit to be shown, the cup for the third section going to a Blue hen of rare quality of head properties. Antwerps were very numerous and good, but some of the pens were empty, and not a few in moult, the cup being awarded to the best Short-faced Silver Dun we have yet seen. Magpies and Swallows.—First a Black Swallow, as also the cup for the section; the second and third Magpies. Long-faced Tumblers were mostly Mottles, and Trumpeters poor. The Selling class was very good, some of the birds being quite equal in merit.

POULTRY.—GAME-Black Red-Cockerel.—1 and 2, W. Rudd. *Pullet*.—1, H. C. Mason. 2, H. Hicks. *chc, J. A. & H. H. Staveley. Brown Red-Cockerel*.—1, J. Hodgson. 2, R. Barker. *Pullet*.—1, T. Dyson. 2 and *chc, G. Bell. Ducking-Cockerel*.—1, G. Ambler. 2, W. Rudd. *chc, J. Cox. Pullet*.—1, J. Craven. 2, W. Rudd. *chc, J. Tempest. J. Craven. Any other variety-Cockerel*.—1, W. J. Mason. 2, R. Walker. *chc, H. C. Mason. Pullet*.—1, E. Lund. 2, J. M. Sellers. *SPANISH-Chickens*.—1 and 2, J. Fowell. *DORKINGS-Chickens*.—1, T. Breden. 2, J. Walker. *COCHIN-CHINA-Cinnamon or Buff-Chickens*.—1 and 2, W. Mitchell. 3, C. Sidgwick. *Partridge or White-Chickens*.—1 and *chc, R. J. Wood*. 2, C. Sidgwick. *BRAHMA POOTRA-Chickens*.—1, G. W. Henshall. 2, H. W. & H. King. *HAMBURGH-Golden-spangled-Chickens*.—1, H. Beldon. 2, Moore & Cartwright. *chc, H. Pickles. Silver-pencilled-Chickens*.—1, H. Beldon. 2, J. Rawnsley. *Golden-pencilled-Chickens*.—1, J. Rawnsley. 2, F. Simpson. *Silver-pencilled-Chickens*.—1 and 2, J. Rawnsley. *Black-Chickens*.—1, Stott & Booth. 2, T. Hoyle. *chc, W. Bentley. BANTAMS-Black or Brown Red Game-Cockerel-Cup and 1, E. Walton*. 2, W. F. Entwistle. *chc, W. F. Entwistle, A. E. Jennings, J. Hodgson. Pullet*.—1, E. J. Booth. 2, W. F. Entwistle. *Any other variety Game-Cockerel*.—1, J. Gornall. 2, E. Walton. *chc, W. F. Entwistle, A. C. Ward. Pullet*.—1, Bellingham and Gill. 2, A. C. Ward. *Any variety except Game-Chickens*.—1, H. W. & H. King. 2, E. Walton. *ANY OTHER VARIETY-Chickens*.—1, J. Rawnsley. 2, H. Bowker. *chc, G. W. Henshall. GESE*.—1, J. Walker. 2, J. P. Crowther. *chc, F. E. Rawson, W. H. Thorpe, J. Shackleton. DUCKS-Rouen*.—1, J. Walker. 2, J. R. Pollard. *chc, W. Bygott, jun. J. Chadwick. Aylesbury*.—1, J. Walker. 2, W. & P. Briggs. *Any other variety*.—1 and 2, J. Walker. *TURKEYS*.—1, J. Walker. 2, F. E. Rawson. *SELLING CLASS*.—1, T. Mallinson. 2, S. Schofield. *chc, J. Walker*.

PIGEONS.—POTTERS OR CROPPERS-Cock-Cup, 1, and 2, R. Fulton. 3, H. Beldon. *Hen*.—1, H. Beldon. 2 and 3, R. Fulton. *CARRIERS-Cock*.—1, M. Hedley. 2, R. Fulton. 3, H. Yardley. *Hen*.—1 and 2, R. Fulton. 3 and *chc, M. Hedley. BARBS*.—1, M. Hedley. 2, J. Thresh. 3, R. Fulton. *TUMBLERS-Short-faced Almond*.—1 and *chc, R. Fulton*. 2, R. Fulton. 3, H. R. Tenney. *Short-faced, any other variety*.—1 and *chc, R. Fulton*. 2, H. R. Tenney. 3, H. Yardley. *DRAGONS-Blue or Silver-Cock*.—1 and 2, R. Woods. 3, H. Beldon. *chc, J. Booth. Any other colour-Cock*.—1 and 3, R. Woods. 2, J. Booth. *Any colour-Hen*.—1, 2, and *chc, R. Woods*. 3, E. Mawson. *JACOBINS-Cup and 1, T. Holt*. 2, R. Fulton. 3, H. R. Tenney. *chc, T. Holt, H. R. Tenney. FAN-TAILS*.—1, H. Yardley. 2 and 3, J. Loversidge. *TURBITS-Cock*.—1 and 3, R. Woods. 2, R. Fulton. 3, T. Holt. 2 and 3, R. Woods. *chc, R. Fulton. OWLS-Foreign*.—1, R. Woods. 2, R. Fulton. 3, H. R. Tenney. *Blue English-Cocks*.—1, J. & H. Ingham. 2, Ward & Lister. 3, J. Thresh. *chc, S. Brier, T. S. Stephenson. Any other colour English-Cock*.—1, R. Helliwell. 2, J. W. Stansfield. 3, P. H. Jones. *chc, J. W. Stansfield, R. Fulton. Hen-Cup and 1, E. Mawson*. 2, Ward & Lister. 3, J. W. Stansfield. *chc, J. Booth, Ward and Lister. Any colour English-Young*.—1, R. Fulton. 2, J. W. Stansfield. 3, J. Booth. *chc, Ward and Lister, E. Mawson, H. Beldon, R. E. Helliwell. ANTWERPS-Medium-faced Silver-Dun-Cock*.—1, E. Turner. 2, H. W. Weaving. 3, L. H. Longbottom. *Medium-faced any other colour-Cock*.—1, B. Rawnsley. 2, S. Wade. 3, Ward & Lister. *Short-faced Silver-Dun-Cock-Cup and 1, H. Yardley*. 2, J. Hayes. 3, E. Mawson. *Short-faced any other colour-Cock*.—1, T. S. Kemp. 2 and 3, E. Turner. *chc, T. S. Kemp, S. Wade, P. Brook. Long-faced-Cock*.—1, B. Rawnsley. 2 and 3, S. Wade. *chc, J. Booth. Any variety-Hen*.—1, J. Shackleton. 2, B. Rawnsley. 3, C. Stott. *MAGPIE OR SWALLOW-Cup and 1, H. Beldon*. 2, R. Woods. 3, E. Mawson. *TUMBLERS-Long-faced*.—1, R. Woods. 2, E. Mawson. 3, Ward & Lister. *chc, J. Booth, Ward and Lister. TRUMPETERS*.—1, H. Beldon. 2, R. Fulton. 3, J. A. Winslow. *ANY OTHER VARIETY*.—1, H. Yardley. 2, H. Beldon. 3, T. S. Stephenson. *chc, J. A. Winslow. LIKELIEST FOR FLYING PURPOSES-Medal and chc, F. Stansfield*. 2, R. Barker. 3, W. Tomlins. *SELLING CLASS*.—1, T. Holts. 2, R. Woods. 3, J. E. Crossley. *chc, J. Wright, H. Beldon*.

JUDGES.—Mr. J. Dixon, North Park, Bradford; Mr. E. Hutton, Columbarian House, Pudsey.

SHOW OF THE OXFORD ORNITHOLOGICAL SOCIETY.

THIS Society held its annual Show of young Pigeons, bred by the members, on Tuesday the 3rd, in the Corn Exchange, Oxford. We have before given our opinion that such societies and such shows do much good. The prizes are almost nominal in value, and the members hold a friendly contest for comparison of their birds, shown *bona fide* as Nature made them. There were in all thirty-seven classes, though unfortunately some of them had no

entries. We regretted to see few visitors to the Show, doubtless owing to the fact that the great sale of Pigeons was going on in London, and drew away many prominent members of the Society.

Carriers were represented by ten Blacks, five Duns and two Blues in three classes. The first Black, deep in the moult, promises to be magnificent in wattle and beak; the second is nearly as good. The Duns and Blues, though so few, were good. **Pouters** had two classes; only one had entries. First and third were Blues, second Yellow. If we mistake not the first Blue will turn out a very remarkable bird. **Dragoons**.—This fashionable variety had five classes. The Blues were the best filled and the best class. The first Yellow was remarkable both for colour and form. The Whites were large. **Tumblers** had four classes, three only of which had entries. The first and second Short-faced looked to us very equal, and birds sure hereafter to make their mark. The class for Balds or Beards was almost entirely composed of the former variety. Two Beards, a Yellow and a Silver, alone appeared. **Turbits**.—We thought the winning Blues a little coarse, but good in face. We admired Mr. Salter's little bird (highly commended). The Silvers all came from one loft; we thought their peaks a little too low. In the Any other class a small Black, bright in colour, was first, a good Red and Yellow being respectively second and third. There were younger birds in this class still squeaking, which we think will one day be quite equal to the earlier winners. **Jacobsins**.—The first Red was a splendid bird all round, with wondrous colour, mane, and rose; his hood might, perhaps, be up a little more. In Yellows the first was best in hood and chain, but a little dull in colour; the second beautifully bright in colour, not quite so short in beak. All the prizes for Blacks went to one exhibitor; the first winner is small and very lustrous in colour. **Owls**.—One class of three had alone representatives, but their quality quite made up for the deficiency in the other two. First a Blue, second a Silver, third a Blue; all remarkable birds, but the first about the best for its age we ever saw. **Archangels** are indeed looking up. All the prizes went to Red Archangels, to the exclusion of a Black. First dark purple, forward, and through the moult; second and third will be as lustrous when older. **Magpies** were, of course, good in Oxford; the third (Black) looked younger than first and second, but will be wonderful in colour. The first (Yellow) was an extraordinary bird for colour; second and third nice Reds. **Fantails** had but two entries, pretty little birds of Scotch type and good carriage. **Antwerps**.—The Short-faced were all Silver Duns save one Blue-cheker, which took third prize. The Long-faced classes had large entries. *Any other variety*.—First and third were Blue Priests; the first the very best we ever saw; second a fine Pigeon.

The Show was judged by Mr. Allsopp, and his awards seemed to give complete satisfaction. On looking round one could not help being struck with the large number of prizes which were most deservedly awarded to Mr. S. Salter of Oxford. The lofts which can produce so many remarkable young birds of so many classes must indeed be something to see.

PIGEONS.—CARRIERS.—Black.—1 and 2, W. G. HAMMOCK. 3, J. CHANDLER. Dun.—1, W. G. HAMMOCK. 2 and 3, W. G. FLANAGAN. Blue.—1 and 2, W. G. HAMMOCK. **POUTERS**.—Pied.—1, J. CHANDLER. 2, T. HERRIFF. 3, R. CANT. **DRAGONS**.—Blue.—1, J. ANDREW. 2, W. G. FLANAGAN. 3, T. C. BURNELL. Silver.—1 and 2, T. C. BURNELL. 3, A. MCKENZIE. Red or Yellow.—1 and 3, W. G. FLANAGAN. 2, J. SIMMS. White.—1 and 2, J. CACUTT. 3, J. SIMMS. *Any other colour*.—1, J. ANDREW. 2, W. OSMOND. 3, A. MCKENZIE. **TUMBLERS**.—Short-faced.—1, W. G. HAMMOCK. 2, R. CANT. 3, H. DACEY. *Flying Mottles or Rosings*.—1 and 3, W. G. HAMMOCK. 2, H. O. CRANE. *Balds or Beards*.—1, H. DACEY. 2, H. O. CRANE. 3, C. P. SAUNDERS. **TURBITS**.—Blue.—1 and 2, G. WEBSTER. 3, S. SALTER. Silver.—1, 2, and 3, S. SALTER. *Any other colour*.—1 and 2, O. E. CRESSWELL. 3, S. SALTER. **JACOBSINS**.—Red.—1, 2, and 3, S. SALTER. Yellow.—1 and 3, S. SALTER. 2, T. C. BURNELL. Black.—1, 2, and 3, S. SALTER. *Any other colour*.—1, G. WEBSTER. 2 and 3, S. SALTER. **OWLS**.—English. Blue or Silver not powdered.—1, 2, and 3, S. SALTER. *Any other colour*.—1, 2, and 3, S. SALTER. **ARCHANGELS**.—1, O. E. CRESSWELL. 2, S. SALTER. 3, F. P. BULLEY. **MAGPIES**.—Black.—1 and 2, S. SALTER. 3, J. CHANDLER. *Any other colour*.—1, S. SALTER. 2 and 3, F. P. BULLEY. **FANTAILS**.—1 and 2, O. E. CRESSWELL. **ANTWERPS**.—Short-faced.—1 and 3, T. HERRIFF. 2, J. MANTEL. *Homing, Blue or Black-chequers*.—1 and 2, C. G. BUTLER. 3, I. CANT. *Chequers, any other colour*.—1, C. G. BUTLER. 2, J. WEBSTER. 3, C. HERRIFF. *Any other colour*.—1, B. SCRAGG. 2, H. O. CRANE. 3, R. CANT. *ANY OTHER VARIETY*.—1 and 3, F. P. BULLEY. 2, C. SALTER.

INDIAN MINAH (MINO) BIRD.

WE have been asked for instructions by an Ashby-de-la-Zouch correspondent as to the treatment of the above bird, but we are not acquainted with one so designated. The name "Minah" may be mistaken for that of Mino, one of the order of Passerines, thus described by L. Figuier:—"The Passerine Dendroica [the Mino being one of that family] are characterised by a bill more or less strong, compressed on each side of the point. They feed on berries and insects, and comprehend numerous genera. . . . The Mino has been assigned to various families. Swainson places it among the Sturniidae; Gray in the sub-family of Graculinæ, under the family of Corvidæ. However, we prefer placing it as we have. They are sought after by the orientals in consequence of their gentle habits and the facility with which they imitate, like the Parakeets, all sorts of phrases and even airs. Their song is very agreeable. The Minos have a bill analogous to that of the Orioles, but their general form and habits approximate more to the Starlings, among which they ought to be ranged. They are

eminently social in their habits, searching for their food in large flocks, and passing the night in numbers on the same or on neighbouring trees. Their natural disposition being peaceful, lively, and confiding, they appear to prefer the vicinity of man's residence and the cultivated fields that surround his dwelling. They frequently attend upon flocks of sheep, to feed upon the insects that infest these ruminants' skins. In countries where locusts abound they are of great service to man by feeding upon them. The Isle of Bourbon was at one time so infested with locusts that it threatened to become uninhabitable. The idea was entertained of introducing some Minos, and these birds multiplied so fast that in a few years the pests had disappeared. Unfortunately the services of the Minos had to be paid for dearly, for they showed a *penchant* for fruit, and made great havoc among the cherries, mulberry trees, &c. When insects became scarce they even attacked the cereals and other crops. These Passerines readily habituate themselves to confinement, and in a short time become as tame as Starlings. Like these birds, too, they possess the talent of remembering and repeating words and various cries. They inhabit Africa, Asia, and Java. In their migrations they sometimes visit the southern countries of Europe, but they are rarely seen in France."

The illustration which accompanies the above remarks represents the bird to be in size betwixt the Golden Oriol and Starling with the centre portions of the outer flight feathers marked, as also are those about the sides of the head, from the back part of which some fan-shaped feathers gracefully project. The tail, like a Robin's, inclines upwards.—GEO. J. BARNESBY.

VARIETIES.

At the next Dairy Show to be held at the Agricultural Hall on the 10th, 11th, 12th, and 14th of October prizes amounting in value to close upon £600 will be offered for competition for poultry and pigeons. Last year it will be remembered there was a show of poultry, but the classes were somewhat limited, and were for birds of any age. On this occasion all the poultry classes will be for birds bred this year. The rules relating to trimming and other such practices will be very strict—a hint that exhibitors may do well to remember. The schedules will be ready by the end of the week. Mr. W. J. Nichols is the Hon. Secretary of the poultry department.

— WE are requested to announce that a Committee Meeting of the Poultry Club will be held in London on Wednesday, September 25th, when the members of the Committee are specially requested to attend.

— WE are glad to hear that more stringent rules than heretofore against trimming are to be inserted in the schedules of the Agricultural Hall and Crystal Palace.

— WE hope there is still some chance of the Oxford poultry and pigeon Show being held. We lately saw requisitions largely signed by the citizens in some of the Oxford shops requesting the Town Council to reconsider their decision, and we also understand that nearly half that body are about to memorialise the Mayor to convene a special meeting to reconsider the question.

— THE great sale of the studs of pigeons belonging to Mr. P. H. Jones and Mr. Roper attracted a large number of fanciers to Stevens's last week. The prices realised by the Turbits of the latter gentleman were even greater than those of the high-class fancy varieties of the former, though many of those sold for large sums—e.g., £12, £13, £14. One celebrated Black Turbit cock fetched £26, and others correspondingly high figures.

STRONG HIVES.

STRONG men, strong horses, and strong stocks of bees recommend themselves. The work they do when fairly tried commands respect and attention, gives confidence and satisfaction. Strong hives put their owners on the highest platform and above the influence of whims and prejudices, and they remain unaffected amidst popular agitations. On the contrary, apiarians with weak hives are easily influenced and soon catch the fever of whims and fancies and help to make them epidemic. New and better kinds of bees and hives are sought and purchased, fashions of every sort are followed, and money spent without returns or corresponding results. "The resting places" are always before us—at the next station. Shall we arrive at it soon? Some twenty years ago some of the Ayrshire bee-keepers on adopting the Stewarton hive predicted that straw hives would go out of fashion and be extinct in twenty years. Some of these prophets speedily returned from wooden to straw hives, and had them made on the Stewarton principle—that is to say, the bottom hives made of straw, with rims of wood on their tops for bars and slides. Since that time many enthusiasts have predicted the downfall of straw hives, they have been doomed again and again, and they have been refused admission to a Crystal Palace bee show; but somehow or other the national doomsday of such hives never comes. Present appearances indicate that this day will never come. Straw hives

were never in such vogue and demand as they are now. My time is taxed heavily to answer letters from all parts of England asking where large straw hives can be bought; and Mr. Samuel Yates of Manchester, who employs all the hive-makers he can find, is seldom able to meet the demand for them.

"To the enlightened apiarian," says the "RENFREWSHIRE BEE-KEEPER," "the day of monster supers, as of big straw skeps, is over. Profitable bee-keeping consists in adopting the hive and system of bee-management by which the greatest weight of comparatively small completed and most marketable supers can be obtained." I am sorry that your able correspondent makes such sweeping assertions. He would make it appear that the Stewarton hive is the acme of perfection, and that all other systems of management are defective. Our apiarian associations are working hard to introduce the bar-frame hive and the American slinger. Some two or three years ago one high up in the bar-frame school said the best way to assist cottagers would be to let a slinger be placed in every parsonage for general use; then the honey could be obtained without the destruction of combs. This notion is not at all in harmony with that of our Renfrewshire friend, who asserts that profitable management consists in adopting the hive and system which gives the greatest weight of small supers. This may be his opinion, but surely other folk may be allowed to think differently. We have had a honey fair annually in Wrexham from time immemorial, and many generations will come and go before small supers will take the place of honey jars in that market. Ever since I was born a hundred times more run honey has been consumed in this country than honeycomb, and for many future generations the probability is great that fifty times more run honey will be wanted than honeycomb. The Stewarton hive is adopted and adapted for supering, and I have not been slow to commend it for that purpose; but other kinds of hives serve their day and generation and their day is not over, and, if I am permitted to prophesy, I would say will never be over while bees are kept for profit. The great bulk of my customers for honey want it in a run state; they give good prices for it, and want more every season. I and hundreds besides keep bees for profit, and we are quite satisfied with our hives and systems. Our hives will bear comparison with other kinds of hives as to cost, convenience, and results. In 1868 our Renfrewshire friend had glorious results in supers from a Stewarton hive. The results same year from a straw hive in an adjoining county (Lanark) were equally good—viz., 328 lbs. gross. Mr. Briscoe has taken 56 lbs. of super honey from a Stewarton hive this year, and "H. J." another correspondent of this Journal, has taken 54 lbs. of super honey from a standard bar-framer of black bees.

In penning these notes my object is to help the readers of the Journal to form a right and safe conception of successful bee-keeping, and thus induce them to lay a good foundation this autumn for success next year and to expect good results from strong stocks of every description. The shape and materials of hives are of far less importance than their size and strength. All kinds of hives can be worked either on the swarming or non-swarming principle, and all kinds of hives can be either supered or nadired. If I were to adopt the Stewarton principle of supering, which is a good one, I would use my present straw hives slightly modified in their crowns, and never dream or have occasion to dream of their inferiority. I am not an admirer of bar-frame hives, but if I used them and wanted to work out the Stewarton principle I would not cast them aside, but use them with tiers of supers and removing the crown boards. I am now preparing my stocks for next year's campaign by having a large young effective force in every hive. Strong stocks, like healthy children, need less care than weakly ones. When bees from condemned hives cannot be obtained for strengthening stocks we resort to artificial feeding with a view to get a batch of brood in August or September. Strong stocks in any kind of hives make strong bee-masters. The satisfaction of success one year gives stimulus and strength for future work. Every favourable season for honey we have records of astounding results from strong hives, and we have reasons for expecting greater things in the future than we have had in the past.

Since the above was written a working man and his wife have been here seeking information. They have eight large hives pretty well filled; three of them have old queens three years old, certain to die next year. Several questions about supering led me to ask him how much he got for his run honey. He said 1s. 4d. per lb. I advised him to get all the run honey he could from his bees and sell it at that price.—A. PETTIGREW.

STEWARTON HIVES.

ABSENCE from home has prevented me from giving an earlier reply to the inquiries of "H. J.," relative to the management of Stewarton hives. Full instructions have appeared in the pages of the *Journal of Horticulture* more than once from the pen of "A RENFREWSHIRE BEE-KEEPER."

A strong Stewarton hive in full work requires three stock boxes, and two will not accommodate the bees sufficiently to prevent swarming and keep the queen out of the supers. Before winter

one or two of the lower boxes are removed, according to the strength of the colony. Last winter out of three stocks one retained two boxes, and the others not being so populous each passed the winter in a single box. In all cases the upper box has been the winter domicile. Driving is not required. As the autumn advances the bees retire into the upper chambers, and the lower ones are simply removed, carefully wrapped up to exclude moths, and are restored to the bees when the warmth of advancing spring enables them advantageously to occupy a larger mansion.—J. E. BRISCOE, *Albrighton, Wolverhampton.*

OUR LETTER BOX.

AMERICAN BEE JOURNAL (W. H.).—Apply to Messrs. Trübner & Co., Ludgate Hill, London.

A STEWARTON HIVE—DRIVING BEES (E. S.).—The swarm which you put into a Stewarton hive at the end of May has either been a small one or in some way mismanaged, seeing it has filled one box only. A bit of guide comb would have prevented the bees making their combs across the bars. You should not have filled the grooves of the bottom box, or in any box, with beeswax. The grooves are meant for use, and when filled with wax the slides could not be used. Your better way now will be to let the bees remain where they are; you will gain nothing by driving them into another hive. If they have not food enough for winter put a nadir (that is, one of the empty boxes) below the hive and feed them. By placing a dish or trough on the board inside the empty hive, with chips of wood in it, you will be able to feed the bees easily. Bees are driven from one hive to another by simply turning the full one on its crown, placing an empty one over it, tying a cloth round the junction, and drumming on the bottom or full hive for twenty minutes.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.					Rain.
1878. Sept.	Barom. at 32° Sea and Level.	Hygrome- ter.		Direction of Wind.	Temp. of Sol at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass		
Inches.	deg.	deg.	N.E.	deg.	deg.	deg.	deg.	deg.	In.		
We. 4	30.187	63.2	59.4	N.E.	59.8	72.3	51.3	103.5	50.6	—	
Th. 5	29.999	65.2	63.0	—	60.1	73.6	58.2	90.2	55.4	0.020	
Fri. 6	30.118	60.3	58.9	W.	60.9	73.2	57.8	112.3	55.0	—	
Sat. 7	30.154	65.7	60.0	W.	61.0	75.4	53.2	120.2	51.0	—	
Sun. 8	29.907	61.6	59.7	W.	61.1	69.7	56.2	104.9	53.7	0.040	
Mo. 9	30.047	61.9	59.7	W.	61.0	70.5	53.2	114.2	52.0	—	
Tu. 10	30.222	58.7	54.0	N.W.	60.9	70.8	48.8	115.6	44.7	—	
Means	30.105	62.1	59.2		60.7	72.2	54.1	108.7	51.9	0.060	

REMARKS.

- 4th.—Very hazy morning and a close warm day.
 - 5th.—Hazy morning, a little sunshine about 10 A.M., afterwards slightly foggy; slight shower about noon; dull afternoon.
 - 6th.—Dull morning, fine about 11 A.M.; afternoon bright and sunny; fine evening.
 - 7th.—Fine bright day.
 - 8th.—A somewhat dull and showery day, although there was occasional sunshine.
 - 9th.—Slight shower in morning, but on the whole a fair day.
 - 10th.—Fine bright day throughout.
- Barometer readings higher than those of last week. Shade temperatures mostly above, though the minimums were a trifle lower than last week. Very little rain.—G. J. SYMONS.

COVENT GARDEN MARKET.—SEPTEMBER 11.

TRADE and supply much the same as last week, consequently prices remain unaltered.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½ sieve	2	0	4	Melons.....	each	1	0	4
Apricots.....	dozen	0	0	0	Nectarines...	dozen	1	0	8
Chestnuts.....	bushel	0	0	0	Oranges.....	£ 100	8	0	16
Figs.....	dozen	1	0	3	Peaches.....	dozen	1	0	8
Filberts.....	£ lb.	0	8	1	Pears, Kitchen..	dozen	0	0	0
Garbs.....	£ lb.	0	6	0	dessert.....	dozen	1	0	3
Grapes, hothouse	£ lb.	0	6	1	Pine Apples...	£ lb.	3	0	6
Lemons.....	£ 100	6	0	10	Walnuts.....	bushel	5	0	8

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	dozen	2	0	4	Mushrooms.....	pottle	1	0	4
Asparagus.....	bundle	0	0	0	Mustard & Cress	punnet	0	2	0
Beans, Kidney forced	£ lb	0	3	0	Onions.....	bushel	2	6	3
Beet, Red.....	dozen	1	6	3	pickling.....	quart	0	4	0
Broccoli.....	bundle	0	9	1	Parsley.... doz.	bunches	2	0	0
Brussels Sprouts	½ sieve	0	0	0	Parsnips.....	dozen	0	0	6
Cabbage.....	dozen	1	0	2	Peas.....	quart	0	9	1
Carrots.....	bunch	4	0	8	Potatoes.....	bushel	3	6	7
Capsicums.....	£ 100	1	6	2	Kidney.....	bushel	5	0	7
Cauliflowers....	dozen	3	0	6	Radishes.... doz.	bunches	1	0	1
Celery.....	bundle	1	6	2	Rhubarb.....	bundle	0	0	0
Coleworts.... doz.	bunches	2	0	4	Salsify.....	bundle	0	9	1
Cucumbers.....	each	4	1	0	Scorzoneria...	bundle	1	0	0
Endive.....	dozen	1	0	2	Seakale.....	basket	0	0	0
Fennel.....	bunch	3	0	0	Shallots.....	£ lb	0	3	0
Garlic.....	£ lb	0	6	0	Spinach.....	bushel	2	6	4
Herbs.....	bunch	0	2	0	Turnips.....	bunch	0	6	9
Leeks.....	bunch	0	2	0	Veg. Marrows..	each	0	2	0
Lemons.....	dozen	1	0	2					

WEEKLY CALENDAR.

Day of Month	Day of Week	SEPTEMBER 19—25, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.	Days.	m.	s.	
19	TH	Twilight ends 8.3 P.M.	67.0	45.4	56.2	5	43	6	5	9	22	2	19	4	6	16	262
20	F	Faber died, 1702.	66.9	43.9	55.4	5	44	6	2	10	29	3	7	23	6	37	263
21	S		66.3	45.0	55.7	5	46	6	0	11	43	3	43	24	6	53	264
22	SUN	14 SUNDAY AFTER TRINITY.	66.6	45.4	56.0	5	48	5	58	morn.		4	9	25	7	19	265
23	M	Boerhave died, 1738.	66.3	46.0	56.1	5	49	5	55	1	14	4	30	26	7	40	266
24	TU	Crystal Palace Show opens.	65.7	44.7	55.2	5	51	5	53	2	43	4	48	27	8	1	267
25	W		66.8	46.8	56.8	5	53	5	51	4	12	5	4	28	8	21	268

From observations taken near London during forty-three years, the average day temperature of the week is 66.8°; and its night temperature 45.3°.

TOMATO CULTURE.

THE Tomato is a vegetable which is not grown by every person who has a garden, because there are many persons who do not know how to use it, and others, again, think it difficult to cultivate. The first obstacle may easily be overcome, as full directions as to the best way of using this wholesome vegetable may be learned out of any shilling cookery book, and as to the culture of the plants, that too is simple. They may be grown in two ways—i.e., under glass and in the open air. In cold districts some seasons they do not succeed very well out of doors, but this is often more the fault of the cultivator than the tenderness of the plant.

In raising young plants some propagate them from cuttings, others from seed. Both ways may be successfully practised. Now is a good time to take cuttings from old plants. Place six or eight of them in a 6-inch pot, root them in a gentle heat, and afterwards keep them closely pinched in, but growing in a moderate temperature until about the new year, when they may be potted off singly and allowed to grow to form early fruiting plants. This is an excellent plan of retaining a good stock and securing early fruit in a simple way. Plants treated like this and properly cared for will produce fruit throughout the whole season. We are cutting fruit from plants now that were bearing in the month of April. These were raised from seed sown about February 1st.

Where plants are raised from seed sown early in spring for fruiting during the summer and autumn they should be treated at first like tender annuals as regards temperature, and their after requirements are simple. They will grow almost without care, but it is when they are just arriving at a fruit-bearing condition that they require attention. When the plants are allowed to grow as they like and make as much wood as possible they will never bear well. If they are to have a fair chance of fruiting they must be very closely pinched-in. This applies to their culture at all times and in all places; it is indeed the mainspring to success. We have plants now bearing two and three dozen fruits planted out against a south wall, and there is hardly an inch of growth on them that is not bearing fruit. Had they been allowed to ramble about, in all probability we should not have secured a single fruit. From the time the first fruit is formed we begin cutting off the side shoots, and ever afterwards they are kept closely cut-in to the bunches of flowers. When plenty of fruit sets on the main stem we prefer growing them with a single stem, allowing no side branches to grow; but when side growths are allowed they are cut in similarly to pinching the main stem.

Our crop of Tomatoes in pots has been the subject of general remark this season, and yet we have only three pots of them. They are growing against the back wall of a cool vinery, and each plant covers a space of about 12 square feet. Many side shoots have been taken from the centre one, but all of them have been pinched-in to the flowers, sometimes nothing but the flowers being left on

the stems, and in this way each plant in a 12-inch pot has produced about a hundred fruits. This I consider a profitable crop, as nothing else would have come to maturity on the back wall under the shade of the Vines. When grown in pots the plants should be potted in a rich mixture of about half loam and half cow dung. Some object to growing Tomatoes in rich soil, thinking it makes them run too much to wood. It does make them do this, but a succession of fine fruit cannot be secured unless there is some good stuff at the roots to produce them, and overluxuriance can always be checked by cutting off the shoots and throwing the strength into the fruit. Strong doses of liquid manure should also be given those in pots. In the open air they should be planted in moderately rich soil, and here they may also be given manure water about this time as the crop demands considerable nourishment. We have grown Tomatoes in pots trained to a single stake, but this is not such a profitable way of cultivating as that above indicated.

Out of doors there are generally many green Tomatoes which fail to colour before the plants are cut down by the frost: all such should be cut off with the stems attached, and if they are hung up in a dry room or warm glass house they will ripen and give a supply of fruit throughout the winter.—A KITCHEN GARDENER.

OBJECTS OF HORTICULTURAL INTEREST IN AND NEAR PARIS.

Now that the principal shows in England are mostly over many of the gardening community will doubtless be wending their way to Paris to see the department of horticulture in connection with the Exposition at the Trocadéro, and especially the exhibition of fruits, which opened on the 16th inst. and continues until the middle of October; and as all may not know the additional points and places of interest horticulturally worth seeing, we subjoin a list of some of the more important.

The Jardin des Plantes, south of the Seine in an easterly direction beyond the Halles-aux-Vins, in addition to containing the best-arranged botanical garden in Europe, has excellent botanical, mineralogical, and anthropological museums. There is a good collection of Pears, and the official and economic plants are very interesting. Visitors will find Professor Decaisne, M. Albert, jardinier-en-chef, and the staff most courteous to English horticulturists; and pages might be written about the advantages furnished, almost gratuitously, to students of science and natural history of all nations from this mine of information, and few know what obligations foreigners are under in this respect to the liberality of the French nation. The garden may be reached by omnibus.

The Jardin d'Acclimatation in the Bois de Boulogne, beyond the Arc de l'Etoile, contains much that will interest the horticulturist; and among the objects is a large test collection of Vines planted in the open.

The Jardin de la Ville de Paris at La Muette, beyond the Trocadéro, is a vast manufactory and store for plants used at the municipal entertainments and in the decoration of

most of the parks, public gardens, and squares of Paris, but is more worthy of a visit in the winter or early spring; here about two million of plants are annually raised.

The Jardin du Luxembourg attached to the Palace south of the Seine is well kept, and in the borders are some showy perennials. There is also a fair collection of Roses, originally commenced, I believe, by M. Laffay, some good specimens of trained fruit trees, an apiary, and the head-quarters of an apiarian society. M. Jolibois is jardinier-en-chef.

The Tuileries gardens, so centrally situated, will irresistibly lead the visitor to the Champs Elysées. Their cosmopolitan assembly and the Bois de Boulogne are all too well known and conspicuous to need any description here.

The Parc de Monceaux, near the Boulevards Hausmann and Malesherbes, and a favourite lounge of the Parisians especially on fête days and holidays, may be reached on the return from the Bois, and, notwithstanding a few palpable eyesores, good taste prevails, and it has been truly styled the prettiest little park in Europe.

The Parc des Buttes Chaumont, formed out of the old gypsum quarries near La Villette and within the eastern barrier, is very pretty and well kept, and will repay a visit. Some fine views of Paris are here attainable. The Parc de Vincennes, reached either by water or rail, may also be visited if time permits.

The cemetery of Père-la-Chaise in the extreme east of the city will not repay the traveller either by its beauty or its horticulture.

Versailles, with its magnificent grounds and its Grand and Petit Trianon, should be taken if possible on a day when the fountains play, and this is usually on a Sunday. A similar occasion should be selected for St. Cloud and the fine-timbered park separating it from the great national fiddle museum and manufactory at Sevres. These may be reached either by water, rail, or tramway, but the undulating and well-wooded banks of the Seine are so pretty in this direction that most will prefer the water at least one way.

The gardens attached to the Louvre, the Palais Royal, and adjoining the Chapelle Expiatoire in the Boulevard Hausmann, and many others in the various squares in different parts of the city, are well kept, and constitute cool and pretty lounges.

Not the least interesting point for horticulturists, perhaps one of the most remarkable on the Continent, is the great central market or Les Halles, which, in addition to an omnium gatherum of all comestibles, has a division devoted to fruits, flowers, and vegetables on a much more extensive scale than anything of the kind to be found in London. In addition the following are good fruit and vegetable markets:—The Marché St. Honoré near the Rue St. Honoré, the Marché de la Madeleine in rear of the Church of the Madeleine. There are also several other fine and airy markets for vegetable produce in different parts of Paris. The flower markets on the Quai Napoleon, near Notre Dame, that on each side of the Madeleine, and those in the Place St. Sulpice, and at Chateau d'Eau are held on different days of the week, and in the two former an hour or two may be pleasantly and profitably spent.

The following trade horticultural establishments will offer more or less of attractions to travellers possessed of gardening tastes—viz., the nurseries of E. Verdier, fils aîné, 37, Rue Clisson, and C. Verdier, fils, 28, Rue Baudrimont, both in the twelfth arrondissement, and near the Jardin des Plantes; and that of M. Levêque et fils at Ivry-sur-Seine, each celebrated for the production of new Roses. Roses for forcing are also largely grown by M. Jamain at Les Glacières, between the Portes d'Orléans and de Fontainebleau. The finest exotics and the most exquisite bouquets and cut flowers will be found in the shops of Madame Scogard, Rue Faubourg St. Honoré; Maison Debrie, 12, Rue Neuve des Capucines; Vaillant-Roseau at 41, and Labrousse at 12, Boulevard des Capucines; and Bourgeau, 6, Place de la Madeleine.

Nearly all the great seed establishments, including those of Messrs. Vilmorin, Andrieux, & Co.; Paul Tollard and Loise Chauvière, are situated on the Quai de la Mégisserie, east of the Louvre, and in the same locality are some good shops where nearly every variety of horticultural tools and sundries in use on the Continent may be obtained. Notable are those of Allés frères, L. Francin, C. Boret, and Maison au Forge de Vulcain. In some of these shops a good deal may be learned, although the tools and appliances are not all advances upon those in use in this country. In the same quarter, along the north bank of the Seine, during the planting season a

large amount of nursery stock is on certain days of the week pitched for sale, and during seasons of cold drying east winds often appears anything but a successful venture for intending planters.

Primeurs will be found as early, as fine, and expensive as anywhere in Europe at M. Chevet's in the Palais Royale, at Potel & Chabot's, Boulevard des Italiens, and at M. Joret's, 16, Place du Marché St. Honoré, and in the Boulevard des Capucines next the Grand Hotel. Curious seeds and Algerian and colonial produce may be seen and obtained at Maison à la Ville de Marseilles, 158, Rue de Rivoli, and of M. Hediard, 21, Place de la Madeleine.

In the suburbs Mushrooms are grown largely at Montrouge, outside the Porte d'Orléans. At Bourg-la-Reine, in the same direction, is the nursery of MM. Jamin & Durand, where the finest possible specimens of training and pruning of fruit trees will be found. M. Margottin fils, well known as a rosierist and grower of Grapes, has also an establishment here. At Sceaux are the nurseries of MM. Thibaut & Keteleer, Croux et fils (Vallé d'Aulnay), and L. Paillet, all worth visiting, and in the same locality at Fontenay-aux-Roses large numbers of Roses are grown for market. Brie-Comte-Robert, also famous for its Roses, is best reached by rail from the station in the Place de la Bastille; but the great Rose centre is at Grisy-Suisnes, about two leagues south, and approached by an omnibus, which runs daily from Brie station to Grisy-Suisnes, where are situated the Rose nurseries of MM. Scipion Cochet, Grainger, L. Cochet, Carré, and many others. English rosarians will be struck with the numberless patches of Roses, varying in size from a rood to a couple of acres, in the open fields and entirely unprotected, the result being the production of clean and healthy-looking but not over-vigorous stuff.

A large amount of fine vegetables is grown both within and without the fortifications, especially towards the east of Paris, and passengers alighting at the Bel Air station of the Paris Ceinture Railway during certain seasons of the year will see some acres covered with cloches used for Lettuces, Cucumbers, various salads, Cauliflowers, &c. In a north-westerly direction, accessible by rail from the St. Lazare station, is Argenteuil, where fine Asparagus, Figs, Strawberries, and Vines are chiefly grown, but not altogether according to English ideas.

There are many other horticultural haunts and objects within reach of Paris, notably the establishment of M. Rose-Charneau at Thomery, but time and space prevent further reference for the present. A passport and politeness will be found useful, and the usual introductions to the museums and most of the public places above alluded to.—T. LAXTON, Bedford.

BULBOUS PLANTS FOR WINTER AND SPRING DECORATION.

Narcissuses.—Next to the Hyacinth in point of elegance and fragrance comes the Narcissus. Its erect and lofty heads are admirably suited for intermingling with other spring flowers, and it has the further advantage of remaining a long time in bloom. The treatment recommended for the Hyacinth will meet precisely the requirements of the Narcissus, only that in potting the latter the bulbs should be buried in the soil right up to the necks. Three bulbs may be placed in a 32-sized or 6-inch pot, and single bulbs can be potted in large 60's or 48's; for decorative purposes both sizes are very suitable. Where large quantities of both these and Tulips are grown for home decoration the bulbs are oftentimes planted thickly together in boxes to grow and show their flowers when they are lifted, and placed in pots as required; but to those who wish to grow a few, and to excel in growing them, it is preferable to proceed as directed last week for growing Hyacinths. Many Narcissuses are admirably adapted for early forcing, especially the Double Roman and Paper White varieties. Other attractive and desirable sorts are Bazelman Major, Grand Monarque, Grand Pimo Citronier, Newton, Queen of the Netherlands, and States General. Jonquils, both the double and single varieties, are sweet-scented and attractive, but perhaps are not so suitable for forcing as the Polyanthus Narcissus, yet if potted in the manner described and allowed to grow naturally until the days lengthen they are very beautiful, and do not become drawn and lanky.

Crocuses, that pretty "harbinger of spring," one of the first flowers of our borders, an ever-welcome visitor, may be grown successfully in pots, and few plants can equal the brightness and purity of the colours of blue, yellow, and white represented by the Crocus. Crocuses, like Narcissuses, are some-

what impatient of a close confined atmosphere, and therefore must have abundance of air after they are removed from the plunging material, and must be placed near the glass while advancing into bloom. Albion, Bride of Abydos, Garibaldi, Golden Yellow, Mont Blanc, and Sir John Franklin are cheap and reliable varieties. The soil that suits them is the same as that recommended for the Hyacinth, but care must be taken that plenty of drainage is given, for Crocuses have a great dislike to soddened soil. Place as many corms of each variety as can be conveniently placed together in a 6-inch pot, cover over with soil, and plunge them under a covering of cocoa-nut fibre. Allow them to remain there until they have fairly started into growth and have filled the pots with roots, when they should be removed either to a cool frame or to a shelf in the greenhouse. A temperature of 45° to 50° after this will be sufficient to excite them to bloom, for if placed in a strong heat the flowers are apt to perish, and the foliage to increase in length and luxuriance.

Snowdrops.—The modest-looking Snowdrops should not be overlooked if variety is desired; but they bloom at such an early period naturally that it is only necessary to pot patches from the open ground where such can be readily procured. These should be plunged for a time like the Crocuses, and then be removed to a shelf or cold frame to expand their flowers.

Lachenalias.—The varieties pendula, tricolor, and versicolor are not grown so extensively as their beauty and adaptabilities entitle them. Their treatment is so simple, and they increase so rapidly, that the smallest greenhouse should not be without them. Mr. Ollerhead succeeds admirably with them grown in baskets simply filled with moss. As many bulbs as can be conveniently placed within the moss are employed, and when water is required the basket is dipped in a tank. By this treatment each basket becomes a globe of bright flowers, and its beauty and simplicity are almost beyond imagination. The plants also succeed admirably potted in the usual way and placed on shelves near the glass. The true variety of pendula is undoubtedly the best for pots and general decorative purposes. Not a day's unnecessary delay should be permitted in procuring and potting bulbs of these distinct and attractive spring-flowering plants.

Ixias, Sparaxis, and Tritonias all require similar treatment, and succeed well potted and placed on the shelf of a cold greenhouse. Their miniature Gladiolus-like spikes of bloom are both curious and attractive. Some of the best Ixias are grown in the Channel Islands.

Scillas bifolia, hyacinthoides, and sibirica are charming little greenhouse plants, and will flower beautifully in pots if left to come away in a steady and natural manner; so also will *Triteilea uniflora*. The bulbs should be placed thickly together in the pots.

Hyacinths, Tulips, Polyanthus Narcissus, and Crocuses are no doubt the most cultivated of the different selections given, but where there is room and variety wanted the others are all worthy of a good trial. The greatest secret no doubt in growing all of them well is allowing them to become established well at the root before subjecting them to a high temperature. Have a mixture of good staple soil as recommended, follow out the directions given as to potting, cover them with cocoa-nut fibre, and leave them to Nature for at least six weeks, and they will emit healthy and strong roots; then with an established foundation to work upon forcing may be successfully accomplished. The earlier flowers are wanted so correspondingly early must be the preparations for successfully producing them, but at no time subject any of them to a higher temperature than circumstances require.—J. W. MOORMAN.

DRESSING CARNATIONS.

YOUR correspondent "WYLD SAVAGE" writes rather wild, or wide of the mark, in his notes on this subject. He asks the question whether it is right and proper to dress Carnations? I reply, As the florist dresses them it is; as "WYLD SAVAGE" defines dressing them it is not. He implies in his remarks that gum is used. I can assure your readers that it is never used. Then he would lead your readers to believe that the cards hold the calyx like a vice—firmly. It is not so; the hole in the centre of the cards is so large that it does not touch the calyx. The object in using the cards is to show the flowers off to the best advantage, as is done with Asters, Zinnias, and similar flowers. Carnations, Picotees, and Pinks are not the only flowers that are dressed; the Chrysanthe-

mum and some other flowers owe more to the dresser's arts than they do. "WYLD SAVAGE" also asks how is it that "we rosarians" do not dress our flowers. I answer, Simply because it is unnecessary. If it were we should find "WYLD SAVAGE" doing it I have no doubt. If he has seen a Carnation so altered by dressing that he could not recognise it I have not.—J. DOUGLAS.

THE COMING INTERNATIONAL SHOW.

WE have received the following suggestive letter relative to the Great Exhibition proposed to be held in London in 1880. Practical suggestions made now are much more likely to be of value than grumbings after the event; we therefore readily publish the letter as containing hints worthy of consideration. We may remark, however, that at the last Great International held in 1866 there were many classes specially provided for growers of limited collections of plants, in the manner suggested by our correspondent:—

"Would it not be well if the Committee of the coming International Horticultural Exhibition were to issue a schedule at once, so as to give intending exhibitors an opportunity to prepare creditable examples for the occasion? It is not necessary that the prizes be affixed; we only want to know at present what is to be asked for.

"Again, it is to be hoped that the trade and private growers may be kept separate in everything, as many amateurs object (and with good reason) to enter the list against the trade; neither is it politic on the part of the trade to show against amateurs. It is submitted also that classes should be made in such a manner that those who are extensive growers shall compete amongst themselves, and those with more limited means and space be likely to meet with those only of their own calibre. Thus if a collection of, say, thirty plants is asked for, let there be also collections of the same for, say, twenty and twelve, and prohibit the same exhibitor from showing in more than one of the collections; this will allow the man who can only muster twelve to meet a friend in the same condition. The "big" men will have gone into the twenty or thirty.

"There should also be a definite number of specimens stated in each class, it being far more satisfactory to exhibitors and far easier for Judges when such is the case. For example, if a collection of Crotons, Alocasias, Anthuriums, Dracenas, &c., be asked for there should be in every instance a given number stated.

"If a collection of herbaceous plants are asked for, let it be stated if bulbs are to be included or excluded; and also let it be clearly stated what is to be the understanding or reading of the word 'hardy.' (1878-79)

"In classes for Tree Ferns it should be clearly stated that the stems should not be under a given height. In collections of exotic Ferns where Tree Ferns are excluded it should be stated if any Ferns without a stem may be exhibited, because a very fine example of *Cyathea medullaris* or *Dicksonia antarctica* could be shown without their having the slightest stem. In the case of a pair of Tree Ferns are we to understand they should be of the same species, or otherwise?

"A preliminary schedule issued as soon as possible, the stipulations being made clear and explicit, would be of great value to exhibitors, and would contribute materially to the completeness and grandeur of the show.—EXHIBITOR."

BORDER BEDDING DESIGN.

Now, when gardeners and proprietors are considering desirable combinations of flowers for the coming year, the following very effective arrangement of lines for an undulating flower border, forming the southern boundary of the pleasure ground at Minella House, may be usefully noted:—

The border is about 60 yards long, and facing north. The background is planted with evergreens, many of the shrubs being very rare, and all striking. Sloping from them and filling interstices between are perennials carefully selected; while gracefully arranged, according to their respective heights and colours, are four lines:—1, And next the margin of the walk, blue *Lobelia* alternately with the *Manglesi Geranium*. The flowers of the latter rise above and contrast remarkably with the former, seen from either end. On nearer approach the variegated leaves of the *Geranium* render more vivid the taste of the arrangement. 2, The shrubby yellow *Calceolaria Aurea floribunda*, still in contrast and gradually rising higher.

3, Henderson's Dark Red Beet; foliage bright, glossy, and brilliant; higher. 4, Tall pink Geraniums; handsome foliage, and reaching upwards to meet the perennials and shrubs already indicated, the whole forming a border that may be well imitated, but can hardly be surpassed.—W. J. M., *Clonmel*.

PEAR AUGUSTE JURIE.

A PEAR ripening at the same time as Beurré Giffard, and far superior to it in size and in flavour, is a great acquisition to the number of August Pears. Our figures were taken from specimens grown in the garden of the Royal Horticultural Society at Chiswick, where they were produced on an open pyramid, and where the fruit ripened to perfection this season from the 10th to the 12th of August.

The fruit is about medium size, roundish ovate, even and regular in its outline. Skin green, becoming yellowish green

always died off. The same with cuttings taken at this time of year and grown into strong plants before the beginning of winter. I have tried them in the warm Cucumber house, in cold frames, on the front shelf of a greenhouse, and on the back shelf of a half-span, always with the same result—viz., that in April I have not one left, and have to buy in a fresh lot for bedding.—H. R. C.

[H. R. C.'s] difficulty is not an uncommon one, and the reason is not far to seek. Nearly all are guilty, nurserymen included, of starving Verbenas through the winter, keeping a dozen, or even a score, store plants in a pit where there only ought to be one. They become as hard as sticks under that treatment, and are more likely to drag their existence through the subsequent barbarous treatment generally thought good enough for them—viz., being perched on a top shelf in a dry and draughty house where the fluctuations of temperature and other conditions are nearly as great as it is possible to have them in winter. It is true that those which do survive this treatment grow and produce cuttings when put under liberal treatment in spring; but can any rational man suppose their progeny can have as good a constitution as if the stock plants had been treated liberally throughout? No; if you want Verbenas to grow and produce such a display in summer and autumn as Verbenas should do, you must have cuttings from a healthy stock—rather a rarity I admit, but still existent—and treat them like growing plants all through the winter, say like herbaceous Calceolarias or Primulas, excepting that they must not be shaded at all after they are struck.

My cuttings are just rooted, and they will now be transferred to boxes where each plant will have at least 4 inches of room each way and as much in depth of soil. They will be kept just slowly moving all winter; you cannot keep such plants dormant without injuring them. I know of an instance this season where a gardener who wintered his plants on the ordinary starving system, being short of stock, begged a few cuttings from a neighbour who had kept his plants in the way I recommend, and the difference in the beds is very marked, so much so that the progeny of the liberally treated plants, although they are the same varieties as the starvelings, are taken to be distinct from them.

It is rather late now, but cuttings may still be taken from a healthy source. They should be inserted quite 2 inches apart in the pots or boxes, and allowed to remain in them till February. A little decayed manure should be mixed with the soil in the lower part of the pots, placing lighter sandy soil on the top, which will encourage them to

root quickly, and the richer soil will afterwards support them better. A gentle dungeb would be best to strike them in at this late season, gradually hardening them off afterwards as soon as rooted. They do not like much fire heat.

As "H. R. C." can manage all other ordinary bedding plants I trust these hints will be sufficient. There is nothing better than sulphur for curing mildew if the sulphur can be obtained good. The best for the purpose has a bright glowing look and feels harsh to the touch; that which feels soft and smooth is useless, you should be able to feel and hear it crunch. The sun ought to shine on it after it is applied, and the destruction of the mildew will be speedy.—WM. TAYLOR.]

SEDUM SPECTABILE.

Of all the flowers which I grow in my garden I have found none so alluring to diurnal insects as this beautiful autumn-flowering Sedum. I have a considerable quantity of it planted in clumps of threes; they form thus a large head of bloom, and I have counted on one of these clumps upwards of a score of humble bees of different species; the hive bee, too, seems fond of it, but not so fond as of the Mignonette near at hand. But besides I have seen on it at one time the following diurnal Lepidoptera:—Red Admiral (*Vanessa Atalanta*), Small Tortoiseshell (*Vanessa Urtica*), Painted Lady (*Cynthia Cardui*), Peacock (*Vanessa Io*), Brimstone (*Gonepteryx Rhamni*), Com-

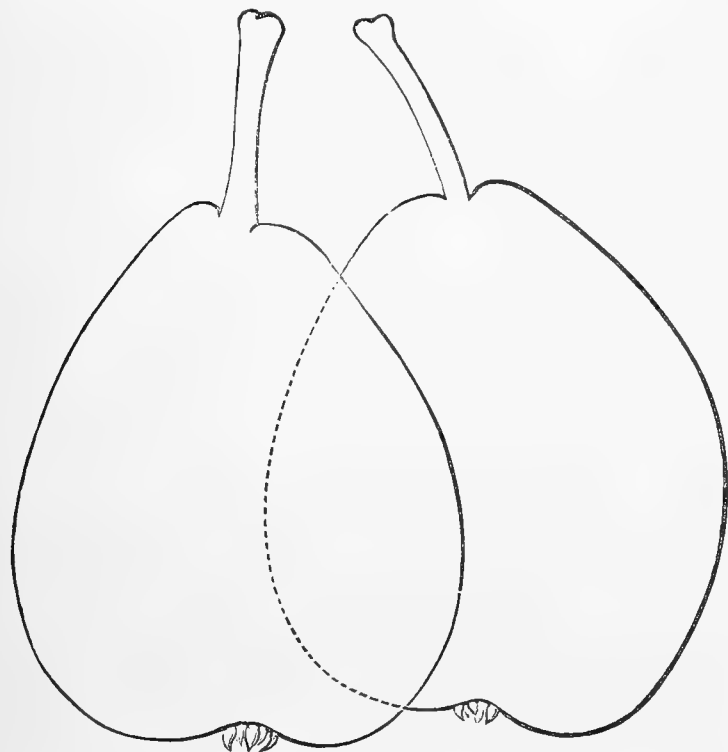


Fig. 35.—Auguste Jurie Pear.

as it ripens, with a thin speckled coat of russet on the side next the sun, and otherwise marked with russet patches. Eye closed with tooth-like segments and set even with the surface. Stalk from 1 to 1½ inch long, inserted without depression. Flesh crisp, rather granular, sweet and briskly flavoured with a fine Melon perfume.

This is a valuable early dessert Pear, ripe in the second week of August.

This was raised from Beurré Giffard at the Ecole d'Horticulture, Ecully, near Lyons, which is under the able direction of our friend M. Willermoz, and was named in honour of M. Auguste Jurie, President of the Horticultural Society of the Rhone. It first ripened fruit on the 11th of August, 1851, and was described by Abbé D. Dupuy of Auch in "L'Abeille Pomo-logique" for 1863. As described by Abbé Dupuy it is bright red on the side next the sun, which is, no doubt, attributable to the climate of the south of France, for here we have found no trace of red upon it, though we have seen it with a slight orange tinge on the exposed side.

WINTERING VERBENAS.

I CAN manage all ordinary decorative plants, but Verbenas always beat me. I have tried taking up the old plants, but they have always been covered with mildew, and in spite of keeping them dry and dressing them with sulphur they have

mon Cabbage White (*Pieris Brassicæ*), Small Cabbage White (*Pieris Rapæ*), and Common Copper (*Lycæna Phlæa*). I have not noticed that the nocturnal Lepidoptera affect it, but it is very pleasant to anyone fond of seeing living creatures enjoy themselves to see how the above insects seem to rejoice in this pretty plant.—D., *Deal*.

NEWCASTLE BOTANICAL AND HORTICULTURAL SOCIETY.

AUTUMN SHOW, SEPTEMBER 10TH AND 11TH.

So remarkable have been the successes achieved at the several shows of this rejuvenated Society during the past few years that the last Exhibition, now under notice, was anticipated with more than ordinary interest—not by local exhibitors merely, but by horticulturists and cultivators in various parts of the country. We have the pleasure to record that the last success has proved more remarkable than ever. A fact that is peculiarly gratifying in connection with the Show is that every exhibit entered was staged, and when it is stated that there were 888 entries made by 158 exhibitors the circumstance noted is something for the Society to be proud of. The 158 exhibitors at this Show have done honour to themselves and set an admirable example to others, and we cordially congratulate the Society on having such an earnest body of supporters.

Under the most fortuitous circumstances the success of any show depends in a great measure on the perseverance, tact, energy, and exertions of the Executive Committee and Secretaries. That none of the Newcastle officials lack in these essentials is obvious, for in the space of a little more than two years they have raised their exhibitions from a commonplace local character to a position which justifies them being ranked amongst the best of provincial shows. Formerly competitors were confined to a limited radius, but now exhibitors of renowned repute enter from all parts of England, and even the "land o' cakes" adds its quota likewise.

The Show just held both in extent and quality of produce surpassed the most sanguine expectations. In consequence of the average high quality of the productions many worthy exhibits did not receive the Judges' awards. This may cause temporary disappointment, but the result will be to develop further and more indomitable energy in the future. Those who were successful were not humiliated, and future honours are well within their reach. They have only to increase their exertions, and in due time they will have their reward. Plants have hitherto formed an important element in the Society's autumn Show; this time the classes for them were very limited. The Committee acted judiciously in so doing. Summer is the time for plants—autumn for fruit, cut flowers, and table decorations. The Show of fruit was superb, and it was no easy task for the Judge to make his awards. The table decorations of vases, epergnes, &c., were a splendid feature of the Exhibition; and florists' flowers, especially Dahlias, well sustained the fame of northern florists. Table decorations, fruit, and florists' flowers were arranged in the Corn Exchange, which was tastefully decorated with banners and mottoes. The bouquets, flower baskets, and epergnes were in the Town Hall adjoining.

In Class I five prizes were provided for the most tastefully arranged table with flowers, plants, and fruit. There were seven competitors, and the tables extending the entire length of the room produced a magnificent effect. The first prize of £10 was well won by Mr. Cypher of Cheltenham with a table which had for its centre a beautiful plant of *Cocos Weddelliana* in a bed of *Selaginella* and Ferns, and containing also Orchids, white and red *Lapagerias*, and several fine Grasses. Encircling the base of the *Cocos* were four glass quadrants and four horseshoe-shaped glasses artistically filled with flowers; besides these were two end pieces, fourteen finger glasses, and twelve dishes of fruit. The end pieces had bases of *Dipladenias*, *Allamandas*, and *Ixoras*, and lighter-coloured flowers were employed in the tops. This table altogether was a model of lightness and artistic skill. The second, third, and fourth tables were very near to each other in point of merit, the third being also very effective. Mr. Moul, Ravensworth Castle; Mr. Methven, gardener to J. Lange, Esq., Heathfield House; and Mr. Robinson, gardener to C. Perkins, Esq., Kirkley Hall, were the respective winners.

Table plants were numerous and good. Mr. Westcott, Raby Castle, won first honours with neat examples of *Dracænas*, *Crotons*, and *Aralias*, beautifully surfaced with a *Selaginella*; Mr. Cypher and Mr. Lazenby, Woodside, Darlington, securing second and third prizes. Vases, epergnes, and bouquets were a fine display and occupied the attention of the Judges for a considerable time. For epergnes for the drawing-room, Messrs. Cypher, Bradley, Jones, and Hynes secured the prizes in the order named amongst eight competitors. Mr. Cypher was also first in the class for bridal bouquets; Messrs. Turner Brothers, Liverpool; J. Jones, Sunderland; and Mrs. Crament, Sunderland, had the remaining prizes. Twelve hand bouquets were staged; Mrs. Crament was first, and Mr. Cypher second. They were both very near to each other in point of merit, and far in advance of all

others. Mr. Cypher was first for a bridal bouquet, and Messrs. Turner Brothers second. Baskets of cut flowers were shown extensively, Mr. Davison securing the first position; and button-hole bouquets were very numerous. Mr. J. Battensby having the first prize with an arrangement of *Hoya bella*, *Bouvardia*, *Myosotis*, and *Maidenhair Fern*.

FRUIT.—This formed the most important feature of the Show, the Society's prize of £5 for eight dishes of fruit, distinct, black and white Grapes being allowed, brought out seven competitors, the first prize going to Mr. J. B. Jowsey, gardener to Gilpin Brown, Esq., Richmond, who staged fine *Gros Guillaume*, and *Muscat of Alexandria* Grapes scarcely ripe; *Royal George* Peaches, very good; and *Violette Hâtive* Nectarines; an *Enville Pine*, the top of which was scarcely ripe, whilst the bottom was too much so; a dish of Plums containing three varieties, apparently Jefferson's, Kirke's, and *Victoria*; a good dish of *Brown Ischia* Figs, and a small Melon too ripe. Mr. Westcott, Raby Castle, was placed second with *Muscat of Alexandria* and *Black Hamburgh* Grapes, both being fine in colour and finish; *Barrington* Peaches, *Pitmaston Orange* Nectarines, both very fine; a splendid *Queen Emma Melon*, *Providence Pine* with a plural crown, rather stumpy, and imperfect in shape, but quite ripe; *Moor Park* Apricots, and the *Raby Castle Fig*. Mr. Ingram of Alnwick Castle was third with an excellent *Queen Pine*; *Black Hamburgh* and *Muscat of Alexandria* Grapes, both very good; *Golden Queen Melon*, *Barrington* Peaches, *Pine Apple* Nectarines, and *Jargonelle* Pears. We have been particular in describing the three collections. Great care and scrutiny was exercised by one of the best judges of fruit in England, yet, nevertheless, many other good judges thought that in consideration of the not ripe *Muscat* Grapes, and the slight comparative value of *Gros Guillaume* for flavour, and the imperfectly ripened *Pine* and *Melon*, that the first collection was not really the best. The fact is, in a Show of such magnitude the labour was too great for one Judge, who could not fail being fatigued, and in that state no man can properly discharge duties so important.

For six dishes of hardy fruit (*Peaches*, *Nectarines*, and *Apricots* excluded), Mr. Shaw, Blackbrook, was first with *Williams' Bon Chrétien* Pears, *Prune Damsons*, *Hawthornden Apples*, *Golden Drop* Plums, *Cob Nuts*, and *Red Grape Currants*. Mr. Westcott was second with *Golden Pippin* Apples, *Red Currants*, *Morello Cherries*, *Washington Plums*, *Williams' Bon Chrétien* Pears, and *Raspberries*; and Mr. Brogden, Jesmond, third; all the collections being good.

For six bunches of Grapes, in not less than three varieties, Mr. Westcott was first with *Muscat of Alexandria* (fine berries), *Gros Guillaume*, *Bowood Muscat*, *Golden Queen*, and *Gros Colman*, all very fine in colour, size of bunch and berries. Mr. Hammond, gardener to Sir Wilfrid Lawson, Bart., Brayton, was second with *Black Alicante* (very good), *Muscat of Alexandria*, *Lady Downe's*, and *Buckland Sweetwater*; Mr. Thompson securing third honours with creditable bunches. A very fine class. For two bunches of *Black Hamburghs* Mr. West, Mr. Jowsey, and Mr. Laidlaw were awarded the honours in the order named. The first were very fine, hammered, and good in size of bunch and berry; the second lacked size, and the third were rather loose. There were twelve competitors. For two bunches of *Black Alicante* there were nine competitors, the first being Mr. Hammond with even and well-coloured berries and fine bunches; Mr. Westcott was second, and Mr. Ingram third, all exhibiting well. For two bunches of black Grapes, any other kind, Mr. Jowsey was first with *Gros Guillaume*, very fine, cut from grafts on the *Black Hamburgh*; Mr. Ingram was placed second with Mrs. Pince not quite ripe, but very fine in bunch and berries; and Mr. Laidlaw third with *Gros Guillaume*. For two bunches of white Muscats Mr. Jowsey was again first with good bunches and very fine berries; Mr. Ingram and Mr. Bradley securing the second and third prizes with capital produce. For two bunches of *Buckland Sweetwater* Mr. Jowsey, Mr. Hammond, and Mr. Moul secured the prizes in the order named. The bunches of Mr. Hammond were larger, but not so well finished as those of Mr. Jowsey. For the two heaviest bunches of Grapes Mr. Laidlaw won first honours with *Gros Guillaume* weighing between 8 and 9 lbs.; and Mr. Witherspoon was second with *Calabrian Raisin* weighing 4 lbs. 10 ozs. For two bunches of white Grapes, any other sort, there were eight entries, Mr. Ingram being first with *Trebbiano*, a very fine bunch indeed; Mr. Hammond and Mr. Jowsey second and third respectively with *Calabrian Raisin* and *Foster's Seedling*. The show of Grapes was altogether excellent, and as a consequence many highly creditable bunches failed to secure prizes.

Six *Pine Apples* were staged, the first prize being easily secured by Mr. Ingram with a perfection of a *Queen* weighing 5 lbs. 5 ozs.; Mr. Moul and Mr. Brown being next in order of merit. There were twenty *Melons* exhibited, Mr. Brown being first with a fine-flavoured green-fleshed variety.

PEACHES AND NECTARINES.—Peaches were excellent, seventeen dishes of six fruits being staged. The first prize was secured by Mr. Laidlaw with richly coloured examples of *Royal George*, the second by Mr. Elsworth, Liverpool, with *Late Admirable*; third by Mr. Irvine, Whitburn, with *Royal George*. Altogether

the Peaches were remarkably fine. There were ten dishes of Nectarines, the first prize being secured by Mr. Elsworthy with Victoria, Mr. Crozier and Mr. Laidlaw being next in order of merit.

Apples were both numerous and good. There were eleven dishes of dessert Apples. Mr. C. Rylance was placed first, and Messrs. Oliver & Petty second. For kitchen Apples Mr. Rylance was again first, his Lord Suffields being very fine; Mr. Service was second with fine fruit of Eckinville, Tower of Glamis, and Withington. Dessert Pears were also excellent, the first prize for four varieties being secured by Mr. Metcalfe, Grantham, with Louise Bonne of Jersey, Beurré d'Amanlis, Williams' Bon Chrétien, and Thompson's. The prizes for Plums were won by Mr. Rylance, Mr. Service, and Mr. Ingram, all staging Jefferson's.

CUT FLOWERS.—Within a circle of some twenty miles around Newcastle, writes Mr. Witherspoon, perhaps we have the keenest growers and exhibitors of florist flowers to be found anywhere in the kingdom. To select a dozen names, all amateurs, is no enviable task, but the following "baker's dozen" can make a show in September anywhere that is worth going a long distance to see. The gentlemen named not only can grow flowers, but also all know them well, and woe betide the reputation of the judge who blunders. We have first Mr. Battensby of Blayden, a capital all-round grower; Mr. Brown of Fence Houses, much the same but on a smaller scale; Mr. Brown, Bedlington, noted for Dahlias; Mr. Codling of Meldon for Gladioli, Hollyhocks, and Roses; Mr. Fenwick, Netherwitton, famed for Gladioluses. As usual, his winning stand was superb, and his leading flower, Catherine Fenwick, a seedling, white with carmine flakes, well merited the certificate awarded; it is a flower of great substance and without a fault. Mr. Flowdy for Dahlias; the Messrs. Harland and Mr. Scott for Pinks, Picotees, and Carnations. The Brothers Harkness of Allendale with rapid strides are coming on, as also is Mr. Oliver, who on this occasion had a certificate for a very fine light Dahlia; Mr. Sanderson of Whorlton for Globe Asters (his stand was really grand). Next we have Mr. Sporr of Svalwell, also quite an enthusiast, and who especially does his Gladioli well; and next, Mr. Walker, the acknowledged northern amateur champion Dahlia grower. On this occasion this good cultivator, who works hard in the Gateshead railway shops every day, took equal first for twelve, second for six; and though he was only awarded third for twenty-four, there were many good judges, including Mr. Bosten of Bedale, who would have been satisfied had he been awarded first. To speak separately of the many exhibits at this great Show made by the above and other exhibitors is impossible, as will be obvious when it is stated that the cut flowers staged exceeded four thousand.

Valuable miscellaneous collections of plants, &c., were exhibited by Messrs. Clark Brothers, Watson, and Robson & Son, which contributed greatly to the interest of the Exhibition; and the skeleton leaves from Mrs. Hodgkin, Manchester, had hosts of admirers. The weather was brilliant, and the crowd of visitors immense. The Newcastle Show has more than sustained its reputation, and the able and indefatigable Hon. Secretaries, Messrs. Taylor and French, have won another triumph.

PROTECTING PEARS FROM BIRDS.

MEETING the other day a gentleman who is devoted to his garden, and works in it both with zeal and skill, we commenced talking about fruits and the fruit of this year—thence I mentioned the terrible destruction by the birds. My friend said, "I prevent all that mischief to the Pears by cutting a slit in a card the size of a playing card and passing the stalk of the Pear through the slit up to the middle of the card, forming, in fact, a sort of collar or Elizabethan ruff to the Pear; then the birds cannot reach the fruit to pick into it, and all is safe." The plan is ingenious, and may be adopted by amateurs in regard to their pyramid fruits. I had noticed that the Pears most frequently injured were those which had a convenient perch for the little predators just above the fruit, and that being wanting some escaped; but the card plan would cause the Pear to be perfectly protected from the piercing and destroying bill, as no bird can pick into fruit while it is on the wing or hovering—it must have a firm foothold, and then, having that, will work away; lacking it, it cannot reach the dainty, and must depart considerably disappointed.—WILTSHIRE RECTOR.

PERILLA ATROPURPUREA LACINIATA.

THIS is the first year I have grown this dark-foliaged plant, and I must say I like it very much. It is far superior to the old *Perilla nankinensis*, which usually turns brown in the autumn, which the new one does not, its colour being a rich purplish black. For large beds or borders when associated with yellow *Calceolarias*, as we have it here, it is fine, and has been much

admired during the past summer. In addition to its capital colour the foliage is deeply cut and serrated, as the latter part of the name implies. I obtained the seed from Messrs. Sutton and Sons of Reading.—GEORGE COOKE, *Nannan Park Gardens, North Wales.*

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 17TH.

THIS, the first of the monthly meetings that are held throughout the winter, was not a large one, but was rendered attractive by fine collections of Dahlias from Messrs. Keynes & Co., Mr. C. Turner, and Messrs. Rawlings Brothers. Some good Tuberous Begonias were exhibited, and an interesting collection of fruit was sent by Mr. Rivers; also some good dishes of Tomatoes were staged in competition for the prizes offered by Messrs. Carter and Co. and Messrs. Hooper & Co.

FRUIT COMMITTEE.—Henry Webb, Esq., V.P., in the chair. Mr. Rivers, Sawbridgeworth, sent twenty-two dishes of fruit, amongst which were Stump the World, Radcliffe, Lord Palmerston, and Princess of Wales Peaches. Amongst the Pears was a seedling not named, to which a first-class certificate was awarded on condition that a name be given before the certificate is handed to Mr. Rivers. It is a seedling from Seckle, and of very high quality. Several varieties of Plums were included, mostly seedlings, and promising, especially one raised from Autumn Compôte, which is very prolific, much darker than its parent, and very fine. Gros Maroc Grape was represented by a bunch of fine appearance, the berries being very large and purplish black in colour. A vote of thanks was unanimously awarded for the collection. Mr. Mould sent a seedling Grape, which was not considered equal to other varieties already in cultivation. From Mr. E. Nelson, Dunmore House, Stanwell, and J. C. Atten, Esq., Stamford, came seedling Apples which were of no particular merit. Mr. A. Rann, St. Giles's Cemetery, Cambridge, sent an Apple named St. Giles's Seedling, which was of good keeping quality but not ripe. Mr. D. Abbot, gardener to Charles H. Frith, Esq., Riverdale, Sheffield, sent a seedling Pea, which was desired by the Committee to be tried at Chiswick, also a Tomato, for which a letter of thanks was awarded. From the Society's gardens came Late Admirable, Rivers' White, Exquisite, Belle Imperiale, and Desse Tardive Peaches, also a seedling Peach, No. 40, and Nectarine Albert Victor. Mr. Thomas Andrews, Elmstead Lodge, Bath, sent a seedling Pea, which was recommended should be tried at Chiswick. Some very fine Onions came from Mr. Walker, Thame, showing the same variety raised from winter and spring-sown seed, to which a cultural commendation was awarded. A large and handsome kitchen Apple, D. T. Fish, was sent by Mr. Turner, which measured 13½ inches in circumference. It was gathered from a cordon, and is a variety evidently deserving of cultivation.

For the prizes offered by Messrs. James Carter & Co., High Holborn, for twelve fruit of Vick's Criterion Tomatoes ten dishes were staged, the first prize falling to Mr. R. Phillips, gardener to Capt. Jackson, The Deodars, Meopham, Kent; the second to Mr. C. Ross, gardener to C. Eyre, Esq., Welford Park, Newbury; and the third to Mr. W. Scott, Pembroke Cottage, Cambridge, all showing very smooth and even dishes, but we have seen this variety attain a larger size. Prizes were also offered by Messrs. Hooper & Co. for a similar number of fruits of Acme Tomato. Mr. A. Hopkins was awarded the first prize for very large fruit, and Mr. Miller, gardener to J. Friend, Esq., Northdown, Margate, the second. The Acme is a larger and flatter fruit than the Criterion, but not quite so smooth and firm.

FLORAL COMMITTEE.—Dr. Denny in the chair. Dahlias were the principal feature of the meeting. A very fine collection of sixty named varieties came from Messrs. Keynes & Co., Salisbury, also a dozen promising seedlings, two of which received certificates. Aurora, a beautiful variety of excellent shape; the petals are somewhat pointed, flat, and imbricated; the ground colour is buff with bronzy orange shading; an elegant symmetrical flower, and very distinct. This variety received a first-class certificate. A second-class certificate was awarded to Gaiety, which is also a very large flower, each petal containing three distinct colours, the ground being yellow flaked and striped with red, the points of the petals being tipped with white. A vote of thanks was also awarded to Messrs. Keynes & Co. for the collection. A first-class certificate was awarded to Mr. Turner, Slough, for Dahlia Joseph Ashby, a very bright crimson-scarlet flower, full, and symmetrical. Mr. Rawlings, Romford, also received a first-class certificate for Dahlia Clara, a very striking variety, colour rosy lilac changing to mauve, the centre of the petals being tinted with salmon. To Mr. Cannell, Swanley, were awarded two first-class certificates for single Dahlias lutea and Paragon; the first is clear yellow, about 2 inches in diameter, and very useful for cutting; the other is a beautiful velvety maroon edged with claret, and a most striking flower. Mr. Cannell also exhibited a collection of twenty-four varieties of Pompon Dahlias, a stand of Verbenas admirably set up, the flowers forming perfect pyramids of bloom, the stand being covered with *Lycopodium denticulatum*; also a

stand of French Marigolds, to which a vote of thanks was awarded. Mr. Smith, Edmonton, also received a vote of thanks for a small but good collection of Dahlias.

Begonias.—A first-class certificate was awarded to *Begonia Nellie May*, which was exhibited from Chiswick; plant of robust growth, flowers produced in threes and fours, very large, drooping, and in colour deep rose—a beautiful variety. Messrs. Hooper and Co. sent several dwarf and well-grown plants, including *Louis Thibaut*, a double variety, which received a first-class certificate. The plant is of dwarf habit, with showy orange scarlet flowers suffused with crimson, and is a profuse bloomer. Messrs. Hooper & Co. also received a vote of thanks for their collection. Votes of thanks were awarded to Mr. Noble for *Rose Queen* of Bedders and *Gynierum argenteum pulillum*; also to Mr. Mould for a collection of *Verbenas*.

Messrs. J. Laing & Co., Stanstead Park Nurseries, Forest Hill, were awarded a first-class certificate for *Eulalia japonica zebrina*, a stately Grass-like hardy plant having deep green gracefully arched leaves with pale yellow blotches—very elegant and distinct. Mr. Green, gardener to Sir G. Macleay, Bart., Pendell Court, Bletchingley, exhibited a large flowering head of *Brunsvigia Josephine*, also *Costus speciosus* with large white flowers, *Gloxinia maculata*, the large blue flowers being supported on a spike a foot long. A vote of thanks was awarded. A first-class certificate was further awarded to Mr. Green for *Nelumbium luteum* grown as a fine-foliaged plant. Twenty varieties of *Abutilons* came from Chiswick, and some admirably grown and well-bloomed plants of *Begonia Moonlight*.

Last but not least in importance was a collection of eighteen plants of *Lilium nielgherense*, *Odontoglossum vexillarium* and *Pescatorei*, and some very elegant *Palms* from Mr. Bull; also a fine *Cycad*—*Macrozamia cylindrica*, to which a first-class certificate was awarded. It has bright green, gracefully arching fronds, the base of each leaflet being ivory white. A most elegant and distinct plant. A vote of thanks was unanimously awarded to Mr. Bull for his collection.

NOTES AND GLEANINGS.

MR. ROBERT SMITH, Kenward Gardens, Maidstone, writes to us as follows:—"In perusing the Journal of August 22nd I was much interested with the article on 'AUTUMN PRUNING OF FRUIT TREES,' written by an 'AMATEUR CULTIVATOR, Oron.' I am pleased to endorse your correspondent's opinions regarding autumn pruning of fruit trees. As a practical man I find it is the best means of procuring fruitfulness in Pear trees on walls, likewise as bush or as pyramid Pear trees. I have often found the Pear trees very shy in producing bloom buds with the ordinary method of pruning, but under summer and autumn pruning I find my trees full of fruit buds and looking well. In my opinion you cannot impress the practice referred to too strongly on the minds of the readers of your Journal."

— **EXTRAORDINARY CROP OF POTATOES.**—Mr. Thomas Draycott, gardener to T. T. Paget, Esq., of Humberstone Hall, near Leicester, has this year grown some of Sutton's *Magnum Bonum* Potatoes, and gives us the following particulars of the produce, which he has recently lifted:—"From one hundred roots the produce weighed 6 cwt. 2 qrs. 2 lbs.; one root weighed 13½ lbs., and another 12 lbs. 6 ozs.; one root had forty-eight potatoes to it, and these, when placed in a straight line, measured 15 feet; three potatoes in a straight line measured 26½ inches, one of them measuring no less than 10½ inches. The whole of the crop was sound and of excellent quality."

— We learn from the *Darlington and Richmond Herald* that on Saturday evening last the friends of Mr. RICHARD GRAHAM, late of Pierremont Gardens, presented him with a purse of gold and an illuminated address on his retirement from his profession, in recognition of the services he has for many years rendered to the Horticultural Society, the Darlington Gardeners' Institute, and other societies with which he has been associated.

— ON the 31st of August Mr. William Cosstick, sexton of the Eastbourne Cemetery, had the pleasure of presenting a collection of wild flowers to the Princesses of Hesse, and their Royal Highnesses showed their hearty acceptance of the present by sending a messenger to Mr. Cosstick, requesting him to come to High Cliff House and explain the nature of the flowers, and also to plant the *Drosera* amongst the sphagnum. He also received a special request to collect for H.R.H. the Grand Duchess of Hesse a bouquet of *Erica tetralix* and *Erica cinerea* to take away with her on leaving Eastbourne. He packed it for her, also the *Dosera* for the Royal children, and the wild flowers to take to Germany, with the tickets attached, with English and Latin names, as mementos of the visit to Eastbourne. Their Royal Highnesses were so much pleased

with the *Drosera* that Mr. Cosstick has promised to send a packet of seed to their residence in Germany. The Grand Duchess presented him with a group portrait of the Royal family of Hesse.

— THE REV. C. SMYTHE, Little Houghton, Vicarage, Northampton, sends us the following note on the UPROOTING AND AFTER-GROWTH OF AN ELM TREE:—"In one of the spring gales I had a large Elm tree blown down. The tree lay in its fallen state for a day or two until my men could have time to cross-saw it. Immediately they had done so the trunk flew back into its old position, and has been ever since in full leaf, and has even been putting forth a midsummer growth. The trunk has a few of the lower branches still attached to it, and looks like being none the worse for its fall. Diameter of trunk at the place of cross-sawing 2 feet 8 inches."

— "G. M., *Wemyss Bay*," writes:—"I beg to inform your correspondent (page 191), that Messrs. James Boyd & Sons of Paisley can supply his want in the way of a MACHINE FOR SWEEPING LAWNS AND PATHS. I saw the implement some time ago, and gave it a rough trial in Messrs. Boyd's yard. I considered it as likely to meet a felt want, about this season of the year in particular, when the leaves begin to drop and wormcasts disfigure the face of a well-kept lawn."

— MULBERRIES, writes a correspondent to us, are not so much prized as they deserve to be. In some instances a few are gathered for dessert, and occasionally an individual is met with who is passionately fond of them. They are certainly rather too insipid for the majority of tastes, but if a few are used with Apples for tarts or puddings they impart such a very agreeable flavour as to fairly merit the term "delicious." Where they are plentiful they should be gathered when perfectly dry and made into a jelly prepared in a similar manner to Red Currant jelly, which can be used with light puddings, &c. It is also quite as efficacious for medicinal purposes as Raspberry vinegar, which it in some respects resembles. Large quantities of Mulberries are annually bought-up by wholesale druggists, which are made into syrup and distributed under the name of *Syrupus Mori*.

— SIR SAMUEL BAKER, in a letter to a contemporary, advocates the establishment of a BOTANICAL GARDEN IN CYPRUS, similar to that in Ceylon, under the charge of a competent official, by whom experiments will be made, and the trees most suitable for the climate and varying altitudes of mountain ranges be selected.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

THE Royal Caledonian Society held its autumn Show on the 11th inst., when the display of fruit far excelled any bygone show of the Society. The Grapes were magnificent—the theme of general admiration. Probably only on the occasion of the International Show in Edinburgh four years ago has such a large collection of Grapes been brought together in Edinburgh before, and then the quality was not finer, while the Royal Caledonian threw the Carlisle International quite into the shade. Including all the classes the total number of entries was seven hundred, being an increase of three hundred over the highest previous year; and among the list of competitors were more names from the south and the sister isle than formerly, showing that the Society is making its influence felt over an ever-widening radius. The general arrangements of the Show gave general satisfaction, but considering the labour involved in getting together a great Show like this, it seems out of all proportion that the public should only have a few hours on one day wherein to see the Exhibition. Popular interest in horticulture is undoubtedly deepening and widening, and it would be worth the effort if arrangements could be contrived whereby the Show would be extended over two days at least. Just as the toil expended in its get-up is increasing year by year, so the Executive ought to be acknowledged and thanked. Upwards of ten thousand persons visited the Show.

In the competition for the best basket of Grapes Mr. Johnstone, gardener to the Earl of Strathmore, Glamis Castle, was an easy first with splendid fruit. For this competition alone some 3 cwt. of Grapes in baskets were sent in, and in one case 30 lbs. had been cut from one rod. Mr. Kirk of Castle-Douglas, who won the chief prize for a collection of eight bunches, staged Duke of Buccleuch, Black Hamburg, Buckland Sweetwater, and Black Alicante, all exceedingly fine, alike in size, colour, and finish, but the remark might also be applied to almost every bunch on the table. The prize collection of Mr. Johnstone included four varieties of Grapes, a fine Pine Apple, Plums, Peaches, Brown Turkey Figs, Melons, and Nectarines.

In the classes for flowers one of the most worthy was the valuable tables of plants sent in for competition by gardeners. A special prize was offered, and the contest lay between Mr. J. Hammond, gardener to Sir Wilfrid Lawson, Brayton, Carlisle, and

Mr. H. Robertson, gardener to David McGregor, Esq., Lynedoch Place. The Judges gave the place of honour to the latter. Some remarkable Cockscombs were staged, the best, exhibited by Mr. Henry Syme, Ridgepark, Lanark, being $4\frac{1}{2}$ inches from tip to tip by $1\frac{1}{2}$, and of fine quality as well. The stands of Gladioli exhibited by west-country nurserymen were excellent. The first prize went to Mr. David Robertson, Mossend Nursery, Helensburgh; and the second to Messrs. Galloway & Graham, both stands being remarkable for arrangement of spike, massiveness of substance, and well defined yet bright and delicate colour. Dahlias, Fancy and Selfs, were large, finely formed, and coloured. This is a flower for the rearing of which Messrs. Downie & Laird are famous, and their stand of twenty-four was made up of most exquisite blooms. Mr. Hugh Dickson, Belfast, and Mr. Thomas Smith, Stranraer, exhibited Roses. Their stands were pretty equal in merit, and the Roses were good for the time of year. There was keen competition in the class of plants for table decoration, and some excellent Crotons, Dracenas, and Aralias were staged. The first prize fell to Mr. A. McLeod, gardener to R. Smith, Esq., Brencham Park, Stirling. Vegetables were a splendid show.

Nurserymen contributed valuable collections. The Lawson Seed and Nursery Company had a choice group of Conifers, Palms, Todeas, hardy Heaths, &c. Messrs. Dicksons & Co. showed Violas, herbaceous plants, Tree Ferns, Yuccas, and Alpine plants. Messrs. Downie & Laird sent in a profusion of Palms, good specimens of the *Sibthorpia europæa variegata*, Dahlias, Phloxes, and Pansies, and also the *Dionæa muscipula*. Messrs. Thomas Methven and Sons, and Drummond Brothers also contributed good stands of ornamental-foliaged plants. Messrs. Ireland & Thompson had an extra fine collection of the newest varieties of Dracenas, Crotons, and Ferns, including some new seedling Crotons. Mr. Robertson Munro, Abercorn Nurseries, showed a large collection of autumn-flowering Chrysanthemums and Alpine plants. Messrs. Roger McClelland & Co., Newry, exhibited a group of seedling Tuberous Begonias, and were awarded a first-class certificate for one variety, *B. majestica*.—(Abridged from the *Edinburgh Daily Review*.)

CHOICE GARDEN ORCHIDS.—No. 5.

VANDA, Lindl.

Vanda Batemanii, Lindl. (Bot. Reg., 1846, t. 59). Syn., *Fieldia lissochiloides*, Gaudich.; *Angraecum quintum*, Rumph.; *Grammatophyllum panthorinum*, Zipp.—This noble plant deserves a place in every collection, its stately habit rendering it very conspicuous. Leaves 1 to 2 feet in length, sword-shaped, leathery in texture, notched at the oblique obtuse apex, pale green in colour. Raceme erect, 2 to 3 feet long, bearing twelve to twenty flowers, which measure upwards of 2 inches in diameter. Sepals and petals falcate, obtuse, and somewhat wedge-shaped. Colour rich golden yellow profusely spotted with crimson, the reverse side being of a uniform bright purple shaded with violet towards the edges. Lip small, triangular. It blooms at various times during the summer months. Malacca and Philippine Islands, near the seacoast. 1845. (See fig. 36.)

V. gigantea, Lindl. (Bot. Mag., t. 5189). Syn., *Fieldia gigantea*, Rehb.; *Vanda Lindleyana*, Griff.—A majestic plant, worthy a place in every collection, even supposing it never flowered. Leaves broadly strap-shaped, recurved, and deeply emarginate at the obtuse apex, some 18 inches in length, very fleshy in texture, and glaucous green. Raceme pendant, four to twelve-flowered. Flowers thick and wax-like in texture, upwards of 3 inches in diameter. Sepals and petals about equal, oblong ovate, and obtuse, golden yellow, spotted and blotched with cinnamon. Column and lip white, the latter being small. Auricles small, obtuse. Blooms from April to June. Burmah.

V. teres, Lindl. (Bot. Mag., 4114).—Stem ascending, of an indefinite length. Leaves round, smooth, and deep green. Raceme erect, longer than the leaves, three to six-flowered. Flowers large and showy. Sepals bluntly oblong, white, tinged with rosy red. Petals rounder than the sepals, undulate at the edges, and same colour as the sepals, with the addition of a tinge of yellow. Lip large and spreading, somewhat rotund, with an emarginate apex. Side lobes also large, incurved. Colour red and yellow, freckled with crimson. Spur large, funnel-shaped. June to August. In damp hot jungles of Sylhet and Burmah. 1828.

V. teres, Lindl., var. *Andersoniana*, Hort.—This is a very free-flowering form. We do not think it differs much in colour from the normal state of the species.

V. cærulea, Griff. (Warn. Select Orchid. 1st Series, t. 18; Paxt. Fl. Gd. i., t. 36).—This species has hitherto been found somewhat difficult to maintain in good health under cultivation. We believe the reason for this is the fact that it has been the custom to keep it both too hot and dry, growing, as it does, in places where the rainfall is excessive and the temperature by

no means so high as that in which many of the species of this genus revel, such as are found in Burmah, Java, &c. The cultivator should, therefore, bear this remark in mind when passing this species through the ordeal of the East Indian house, and either remove it to the coolest part or place it in the Brazilian or Cattleya house. Leaves channelled, leathery, equally truncate at the ends, with a concave notch and acute lateral lobes, some 4 to 5 inches long and an inch broad. Colour deep green. Raceme erect, 12 to 18 inches high, bearing twelve to twenty flowers, which measure nearly 4 inches in diameter. Sepals and petals large and flat, oblong obtuse, twisted at the base, bearing a short claw. Colour light blue, tessellated with lines of a deeper hue. Lip small, leathery, linear-oblong, obtuse at the point with three diverging lobes, and bearing three parallel perpendicular plates in the disc; side lobes triangular, acuminate. Colour deep violet. Spur short, blunt. It blooms during the autumn months. Sylhet at 2000 to 3000 feet elevation. 1849.

V. Parishii, Rehb. fil.—A somewhat rare and at present little known species, very distinct in habit from any other species yet introduced. Leaves broadly ligulate, unequally bilobed, thick and fleshy in texture, some 6 inches long, nearly $1\frac{1}{2}$ inch broad, and pale green. Raceme erect, bearing several large flowers about the size of those of *V. gigantea*. Sepals and petals cuncate, oblong and slightly undulate. Ground colour yellow, profusely dotted with rich brown, except at the base where they are wholly white. Lip white at the base with two yellow stripes, deep violet in front, and rhomboid. Column white. Summer months. Burmah. 1870.

V. tricolor, Lindl. (Bot. Reg., 1847, t. 59).—A magnificent and well-known species. Leaves linear-lorate, channelled and beautifully recurved, oblique at the apex and deeply lobed. Raceme shorter than the leaves, bearing six to twelve flowers, which are very fragrant. Sepals and petals coriaceous, obovate, obtuse, narrowed at the base, and partially twisted, slightly undulate at the margin; ground colour rich yellow, with numerous reddish brown spots and streaks, the reverse side being white. Lip three-lobed, equal in length to the petals, oblong, or slightly heart-shaped; lateral lobes rounded; middle lobe oblong, emarginate at the apex and deep rose colour, the disc streaked with several raised lines. Spur short, obtuse. April to July. Java, &c. 1847.

V. tricolor, Lindl., var. *insignis*, Hort.—This variety is distinguished by the flowers, which are in the sepal and petals light yellow spotted with crimson. Lip pale lilac. It is a very desirable and free-flowering form. April to July. Java.

V. tricolor, Lindl.; var. *Warnerii*, Hort. (Warner's Select Orchids, 2nd Series, t. 39).—This plant is very rare. It has very strongly ribbed leaves. Sepals and petals similar to those of the variety *insignis*, but having in addition a broad well-defined margin of deep rose. Lip an intense deep rosy purple.

V. tricolor, Lindl.; var. *Rollissonii*, Hort.—In this variety the flowers approach in appearance very nearly those of *V. suavis*; they are, however, slightly different in shape, and are more intensely coloured. It is one of the very best forms. There are numerous varieties of this species, which differ only in the intensity of their colours and markings, the best of which we shall enumerate: *V. tricolor formosa*, *V. tricolor melegris*, *V. tricolor Russelliana*, *V. tricolor Dodgsonii*, and *V. tricolor Leopoldii*.

V. cærulescens, Lindl. (Bot. Mag., t. 5834).—A charming species. Leaves narrow, strap-shaped, 5 to 7 inches long, very leathery in texture, deeply channelled and strongly keeled below; apex truncate, and two-lobed, the lobes ending in stiff sharp points. Colour pale green. Raceme erect, longer than the leaves, many-flowered. Sepals and petals sub-equal, somewhat spatulate, spreading and incurved, light blue. Lip three-lobed, somewhat cuneate and crenulate; side lobes small, dark blue, joined throughout their length to the sides of the column, which is of the same colour; middle lobe rounded; disc deep violet blue, bearing three thick smooth ridges. Spur about the same length as the lip, incurved, acute. March to April. Burmah. 1870.

V. Roxburghii, R. Br.; var. *cærulea*, Hort.—This variety is distinguished only by the colour of the labellum, which instead of being rosy red is a charming cærulean blue. July to August. Assam. 1810.

V. Hookeriana, Rehb.—An extremely rare plant. It has proved, like *V. undulata*, most difficult to establish in our collections. In general appearance it resembles a small and slender form of *V. teres*. Stem ascending. Leaves terete,



Fig. 36.—*VANDA BATEMANII*.

slender and bright green. The sepals and petals are about equal in size, and, together with the lip, are white tipped with rosy lilac. It has not yet flowered in this country. Upper Assam. 1860.

NORTHAMPTON HORTICULTURAL SHOW.

ALTHOUGH many good and successful horticultural shows have been held at Northampton, the Northampton Horticultural Society is yet in its infancy, and the second annual Exhibition was held on Thursday and Friday last on the racecourse, in connection with the Show of the Northamptonshire Agricultural Society, which has, through the energy of its courteous and able Secretary, Mr. J. M. Lovell, developed into one of the most important of local societies. It almost seems a pity that the county, with so many rich and zealous devotees and patrons of horticulture, should not also possess a county horticultural society, for it has been the custom of the Agricultural Society, as it itinerates annually from town to town in the county, to ally itself with a local horticultural society or show.

Studded as Northamptonshire is with the seats and gardens of noble owners, and possessing a goodly array of botanists and of gardeners of all classes, few counties are better placed for a county horticultural society. Furthermore, it possesses some good garden land, of which, if other evidences were wanting, one has only to pass on a market day through the rows of excellent fruit and vegetables which are to be seen in the noble market-place of which Northampton boasts as one of the finest in the kingdom, to ascertain that all the best vegetables do not come to Covent Garden. Northampton, however, like several other towns in the county, has done its best to supply the want of a county horticultural Society, and the Show I visited on Friday last did not discredit its agricultural neighbour.

The leather metropolis favoured with glorious weather was not only profusely but prettily and appropriately decorated, and the throngs who flocked to the town and to both Shows tell how much the neighbourhood appreciates both good horses and good flowers. The competitive part of the horticultural Show was comprised in five marquees, the local nurserymen, Messrs. John Perkins & Son, Messrs. Thomas Perkins & Son, and Messrs. Ball and Co., each having also a large marquee well stocked with their own productions; but more canvas was necessary: further, the magnificent plants belonging to Messrs. Cypher, House, Parker, and others were totally unprotected, the passages left being far too narrow to prevent injury to the specimens. The difficulty, I am aware, generally arises from the entry system not being sufficiently stringent, many exhibitors at the last moment omitting to fulfil their entries for reasons which do not always come to light; and if the Newcastle system of fines for non-compliance works well it might be worth extending to more southern shows. It is not always easy to hit the exact medium, but generally an allowance of one-fourth or one-third (the latter in adverse weather) will meet the circumstances, and it should always be taken into consideration. At Nottingham two years ago all the entries were liberally provided for, and consequently a large and otherwise good Show was spoiled in effect by the predominance of blank boards.

At Northampton, as a consequence of the limited space at the command of the Committee in proportion to the extent of the Show, the arrangements were somewhat defective, cut flowers and vegetables being in several different tents, and some of the latter (not the worst) under the tables. A much better plan, especially where the judging has to be classified and divided for different judges, is to keep each department as nearly as may be separate, allowing cottages, however, a tent for themselves, as the latter are often inconveniently zealous to see other exhibits at the time of staging.

In the open class Mr. J. Cypher of Cheltenham had evidently not left his finest plants at home, and was placed first for a collection of twelve stove and greenhouse plants in flower, Mr. Parker of Rugby and Mr. House of Peterborough being respectively second and third with somewhat smaller but healthy and well-grown specimens. For Ferns in the open class Mr. Cypher was first for six, and Mr. J. Holland, gardener to John Phipps, Esq., Northampton, second. For eight foliage plants in the same class Mr. House was first; Mr. Farr, gardener to Sir R. Knightly, Bart., Fawsley Park, second; and Mr. Parker third. In the gentlemen's gardeners' class Mr. H. Ward, gardener to W. Jeffery, Esq., Northampton, was first for six stove and greenhouse plants; and Mr. J. Day, gardener to A. Seymour, Esq., Norton Hall, Daventry, second. Amongst cut flowers the Rose claims my sympathies, and therefore I give it first place, and in order that I might have a test of the persistency of autumn Roses I deferred my visit to the Show until the second day; if, then, my opinions differ from those of others who saw them on the first day allowance must be made accordingly. Some good blooms were staged, especially in the open class for twenty-four singles, in which Mr. J. Sladden of Chipping Norton was first, the cream of his lot being Madame Sophie Fropot (unequaled as an autumn-flowering light Rose), Henri Ledechaux, Marquise de Castellane, Catherine Mermet

Marguerite D'Ombraïn, and Comtesse d'Oxford. Madame Prosper Langier was, however, ragged and flat, and when yellow eyes become the rage Duchesse d'Ossuna may be considered a beauty. In this and other stands from Mr. Sladden the colours were conspicuously bright, and there must either be something in the Oxfordshire soil, or it may be the seedling Briar that causes this. Certain, however, it is that brighter Roses come from Oxfordshire in the autumn than from most other localities. My own opinion is that lime has something to do with brilliancy of colour. Mr. G. Howes of Daventry was second for the twenty-four, having good blooms of Marie Baumann, John Keynes (which is remarkably fine this autumn), and Exposition de Brie. Mr. Wm. Jackson, Blakedown Nurseries, Kidderminster, was third with blooms evidently cut some hours before those in the other stands, and here Leopold I., Victor Verdier, M. Boncenne, and Antoine Mouton stood well. For twelve varieties, singles, in the open class, Mr. Sladden was again first, having Madame Sophie Fropot and Souvenir d'Elise, very fine. Mr. Howes was second. In the gentlemen's and gardeners' class the Rev. W. H. Benn, Church-over Rectory, Rugby, was first with Marquise de Castellane, Alfred Colomb, Maréchal Niel, Anna Ollivier, Cheshunt Hybrid, Madame C. Wood, Jules Margottin, Capitaine Christy, Gloire de Dijon, Pierre Notting, Baronne de Rothschild, and Sénateur Vaisse. Mr. H. Ridge of Whittlebury was second. Mr. Sladden had also an excellent stand, and which in the advanced stage seemed to distance those of his competitors. He had Marie Van Houtte (excellent), Dupuy-Jamin, Madame Sophie Fropot (A1), Charles Lefebvre, John Hopper, Maréchal Niel, Capitaine Lamure, Devoniensis, Madame H. Jamin, Belle Lyonnaise, Madame Victor Verdier, and Lord Macaulay; all good. In a class for twelve blooms, open to amateurs and gardeners, the Rev. W. H. Benn was again first, having good blooms of Duke of Edinburgh and Pierre Notting. In the amateurs' class a good six came from Mr. H. Ridge of Whittlebury, who was first, Mr. A. Coates of Wellingborough being second. *Gladulus* in the open class were fairly well shown by Mr. Sladden, who had *Lacépède*, *Cerimene*, *Mathilde de Landevoisin*, *Eugène Scribe*, *Le Vesuve*, *Le Phare*, *Marie Dumortier*, *Carnation*, *Addison*, *Fulton*, and *Tintoret*, purplish rose, flaked carmine, large, and good shape. Messrs. Thomas Perkins & Son, Northampton, were second, having *Jupiter* (good), *Marie Stuart*, *Mons. Desportes*, *Reine Blanche*, pure white, with throat slightly marked carmine, but not good shape; and *Leander*, striking in colour, the flowers having an Iris-like appearance.

Dahlias were very good, especially those in the open class from Mr. Jackson of Kidderminster, who was *facile princeps* both for the twenty-four and twelve Show varieties; Messrs. Thomas Perkins & Son were second, Mr. Jackson being again first for twelve Fancy varieties with a fine stand. For twelve Show varieties in the gentlemen's and gardeners' class Mr. H. Ridge of Whittlebury was first with good blooms, and Mr. E. C. Adams, Lower Heyford, second. *Asters* were not good, with the exception of Mr. J. Betteridge's stand of his large quilled strain, which now approach in size the incurved and tasselled varieties. Plants of *Zonal Pelargoniums* showed an excess of foliage and a paucity of flowers, the best coming from Messrs. J. Perkins & Son, who were also first in the open class for double *Zonals*; and Mr. Farebrother, gardener to R. Turner, Esq., Northampton, in the gardeners' class second. If "*White Wonderful*" is put forth as a sport from its attractive and floriferous namesake the plant I saw here does not confirm this origin, its habit, foliage, and flower being quite distinct, and certainly there are far better double whites, notably Madame A. Baltet and Mrs. Trevor Clarke. Prizes were offered for wild flowers, but rare types were wanting, many of the specimens shown being unclassified and incorrectly named.

For dinner-table decorations Mr. Cypher's tasteful hand and eye coupled with his rich floral stores brought him to the fore with a very elegantly dressed table, his decorations being neither sparing nor profuse, and glaring colours not being too dominant. Mr. Haskins of Stone Gardens, Buckingham, was second, and Mr. Parker third. The best bouquets both for table and hand came from Mr. Cypher, and the prize for one made by a lady of the county fell to Miss Beran of Brixworth. Model gardens are generally a feature at Northampton, and always prove attractive to the masses, and on this occasion the labours of the exhibitors were not thrown away. The prize models shown by Mr. Porter James of Northampton, and by Mr. James Toogood, gardener to the Hon. C. W. Fitzwilliam, who were first and second, displayed not only much industry but more taste than is usual with these toys.

Fruit was good and largely shown, but the staging of the collections on plates spoiled the effect. In the open class Mr. Chater, gardener to Sir Charles Isham, Bart., Lamport Hall, was first; and Mr. J. Day, gardener to A. Seymour, Esq., second for a collection of eight varieties; and in the gentlemen's and gardeners' class Mr. Day was first for six varieties, and Mr. Farr second. The latter had Colston Basset Melon, a tempting-looking small variety. Very good Black Hamburg Grapes came from Mr. Wm. Miller, gardener to R. Soder, Esq., Whittlebury; and White Muscats from Mr. Day, who were each first in the open and

gardeners' classes. Two fine bunches of Dr. Hogg proved that this variety is worthy of its name, the colour being a very rich amber, and the bunches large. In Melons Sutton's Hero of Bath and Gilbert's A. F. Barron were the best. Peaches and Nectarines were scarcely up to the average, but Apples, Pears, and Plums were well and largely represented. Amongst Apples Lord Nelson, Bedfordshire Foundling, and Northern Spy were conspicuous for size; Lord Suffield, and a small streaked Pippin named Lord Lennox, seem to be two of the most popular varieties in this locality; Williams' Bon Chrétien in Pears and Coe's Golden Drop in Plums occupying a similar position. But the finest dish of Pears was one of Souvenir du Congrès from Mr. Marshall of Whittlebury, to which the first prize in the amateurs' class was awarded; this is evidently one of the best Pears of modern introduction.

Vegetables, especially Potatoes and Onions, were very good and clean. For the collection of six varieties Mr. Day was first, and Mr. T. Eads, gardener to J. Beck, Esq., Northampton, second. For a collection of twelve varieties of Potatoes in the open class Mr. W. Emerton, Cold Ashby, Rugby, was first, having Heather Bell (a fine purple-splashed kidney), Lye's Favourite, Robertson's New White (a roundish flat sort), Schoolmaster (large, clean, and good), Snowflake, Countess, Trophy, Red Emperor, Purple Fluke, Farquhar's Favourite, and Beauty of Hebron (good). Messrs. Ball & Co. were second. The best Potatoes, however, in the Show and one of the cleanest and most select lots I have seen anywhere, came from Mr. Eads, who showed for six varieties in the gardeners' class Fenn's International and Model, two veritable models; Schoolmaster, Sutton's Magnum Bonum, Snowflake, and Porter's Excelsior, all likewise nearly perfect, and, perhaps, these six varieties constitute the *crème de la crème* of exhibition varieties, as in so small a selection coloured sorts are hardly admissible. Mr. Emerton was second with larger and very fine specimens, but his lot had evidently seen the "light of other days" before coming to Northampton. Mr. Emerton staged two collections, and amongst them were Trophy, Henderson's Prolific (a roundish-flat variety of the Handsworth type), Grampian, Lady Webster, Excelsior, and Blanchard. For single dishes in the amateurs' class Mr. A. Coates was first for kidneys with Snowflake, and for rounds Mr. George Wilcox with Red-skin Flourball. The best Onions were White Spanish, shown by George Turner, Esq., Mr. Eads, and Mr. Russell, gardener, Boughton House. Mr. Turner's were the largest (15 inches in circumference), but those shown by Mr. Eads of the yellowish-skinned variety were very clean and sound. Cucumbers and Peas appeared generally past, but Intermediate Carrots were good. In the cottagers' class remarkably good vegetables were shown.

The Show was altogether a successful and an attractive one, and the perseverance and tact of the Committee and the Hon. Sec. (Mr. Cordeux), have well sustained the reputation of the Northampton Shows. A good and thoughtful feature was the admission on the second day at four o'clock of school children at 1d. each, a privilege which seemed to be well appreciated.—T. LAXTON, Bedford.

EXHIBITING CARNATIONS AND PICOTEEES.

"TIME bringeth its revenge," and it has done so to me in this matter. Some two or three years ago I deprecated the barbarous system of showing these flowers, and said I hoped the day was coming when it would no longer be practised. Had I committed the seven mortal sins I could not have been more bitterly assailed. I have no wish to recall these things, and I do it in no irritation. I knew I was right; and although my notions were considered crude, the result of incapacity and ignorance, and I was not even deemed worthy of the name of florist and had never done anything to benefit floriculture, yet somehow or other I believed I was taking a course which would commend itself to common sense, and if it did so would win its way. As far as I recollect I said—1st, That there was no flower exposed to the same treatment with the exception of the Pink, so nearly allied to it; 2nd, That it was misleading to the general public, who know nothing of the mysteries of dressing; 3rd, That however skilful the cultivation might be, success was really with the most skilful dresser; 4th, That it was absurd to make a rule that no mutilated flower was to be exhibited when any number of petals might be taken out, mutilation meaning in this connection not taking from but adding to; 5th, That it was strange that to cut out the eye of a Dahlia should disqualify, while the exhibiting of even half the petals of a Picotee was allowable.

This year the second annual exhibition of the southern section of the National Carnation and Picotee Society was held at South Kensington, and I subjoin a few, and a few only, of the comments made upon it. One of your contemporaries says, after alluding to the success of the show regarded from the point of view of the professed florist, "At the risk of being

considered rash heretics we venture to dispute the assumed excellence of the present mode of exhibiting these flowers. Is it necessary, for instance, that the flowers, no matter what their colour may be, should be throttled by a stiff collar of dead white cardboard projecting all round the flower for some distance?"

Another says, "It is high time to protest against the way in which these lovely flowers are made hideous at shows. A bed of seedlings left alone has a better effect than all the collared Carnations ever seen. We do not wish to quarrel with the florist for his ideal, and let him lay down all the rules and standards of perfection which he likes. What we have to deplore is the fact, that after ages of effort and not a little vaunting of what has been done, the ideal flower is only to be seen in a deep paper collar, with all its delicate beauty of varied petal destroyed, flattened, or pushed out. Each exhibitor is armed with a small series of instruments, reminding one of a dentist's collection, wherewith the said exhibitor extracts small petals, flattens others, and goes through a variety of operations to force the flower to assume for an hour or two before its death a shape which he calls perfect. All this might be tolerated if at the same time these beautiful flowers could be seen as they grow. This is all we ask for. A show of Carnations and Picotees well grown in pots, and allowed to bloom without mutilation or objectionable collars, would be a charming novelty, and we should see in what way the flowers look best. We believe the usual way of showing them is that calculated to exhibit to the least possible advantage the beauty and grace which Carnations and Picotees naturally possess."

A third gardening paper says, "As usual at these shows each flower had a paper collar affixed round its neck. Exhibitors say this is not to keep the flowers from splitting or the petals from falling, but to show them off to the best advantage. If this is so why are these flowers shown in stands provided with collars? Would not a sheet of paper placed over the boxes answer as well? This practice, as well as that of mutilating the flowers with pincers and other instruments, are a disgrace to lovers of flowers, and are a means of deceiving the public who are ignorant of such maltreatment; and it is no more right for exhibitors to take from or add to their flowers than it is for exhibitors of animals to cut off their ears or tails."

The *Journal of Horticulture*, our Journal, through one of its most welcome contributors gave the same last week, and my excellent friend "WYLD SAVAGE" writes so trenchantly that I must add a few of his words to this array of authorities. "I have never seen florists dressing their flowers before, and I must express my opinion that it was a very unedifying sight. The lovely flower was seized by the scruff of its tender throat, much like a poor victim is seized by the dentist, and a pair of ivory tweezers were employed in pulling every single petal out of its place. 'I say, old fellow, have you seen these Carnation fellows dressing their flowers?' said a brother rosarian to me. 'They are like a lot of ladies' maids' I answered, 'preparing their mistresses' heads for a ball.' If this practice goes on we shall come to this: It will not be the best florists or the best flowers that will win; it will be the most skilful operators and the most highly dressed and artificial flowers that will carry off the prizes."

Now I know it will be said, "These are all outsiders: they do not look at it from the florist's point of view, and hence their opinion is worthless." But I am convinced of this, that when outsiders have common sense on their side they must ultimately prevail. But I have the last shot in my gun as the best. I read in the account of the northern show of Carnations and Picotees that the premier prize for the best Carnation was awarded to Mr. Rudd for a bloom of Mercury as cut from the plant. When I saw this, remembering that the north is the very Mecca of the florist, I could not help exclaiming, Hurrah!

I thus see in these extracts all that I contended for advanced, and I cannot but hope that something may arise from this unanimous chorus of disapproval. If the Committee would offer prizes for uncut flowers—*i.e.*, flowers from which no petals are extracted, I am quite sure it would be accepted as a boon by the public, and unquestionably those who now exhibit these marvellous specimens of dressed flowers would be equally able to show well the raw material out of which they are manipulated. The arranging of the petals in order I should no more consider wrong than the arranging the bells of a Hyacinth or the truss of an Auricula, but it is this mutilation, this metamorphosis of the flower, which is to me so contrary to all ideas of fair treatment.—D., Deal.

P.S.—By the way, if one man grows Carnations and Picotees

and is ignorant how to act as their man milliner, and he cannot under the present system of showing hope to obtain a prize, and obtains therefore the aid of a good dresser to do them for him and he wins, to whom ought the prize to go?

BRIGHTON AUTUMN SHOW.

ON the 11th and 12th inst. the Brighton and Sussex Horticultural Society held its autumn Exhibition of fruit and flowers at the Pavilion. The display was a fine and extensive one, filling a large tent on the lawn and the suite of five large rooms opening into each other and extending along the entire front of the ground floor of the building. The public attended in such large numbers as to render our work of notetaking somewhat arduous, many of the tables being so beset that it was only by following along with the streaming crowd a sight of their contents was to be had, and so it becomes our pleasant duty to record the success of a Show that was quite worthy of it. True it is that the plants in some classes were inferior to the recognised standard of excellence, and that among cut flowers the Roses, owing to the inclement weather that has lately prevailed, were much below par, yet in other classes we found ample compensation.

PLANTS.—Of these there was a goodly array, as was to be expected from the liberal offer of three prizes each in twenty-six classes. The magnificent group of eight ornamental-foliaged plants by Mr. W. Balchin, nurseryman, Brighton, to which a first prize was awarded worthily, attracted much attention. Nearly all of the plants were models of skilful culture, *Areca sapida*, *Pheniceophorum seychellarum*, *Cycas revoluta*, *Encephalartos villosus*, and *Croton majesticum* being specially good. This plant last named, besides being of great size and fine form, possessed the high merit of being the only really well-coloured *Croton* in the Show. Mr. W. Miles came second, and Mr. Meachin third in this class. In the class for four plants of similar character Mr. Meachin, gardener to Mrs. Armstrong, Woodsee, Preston, came first with a fine *Yucca aloifolia variegata*, a large *Pandanus Veitchii*, and a couple of *Crotons*. For eight stove and greenhouse plants Mr. Balchin was first with a large well-furnished *Rondeletia speciosa* major with plenty of flower buds but not many open flowers, a *Dipladenia splendens* tolerably well flowered, a large plant in fine bloom of the familiar *Bougainvillea glabra*, and the equally familiar *Ixora javanica floribunda*, the rich yellow *Allamanda Cheloni*, and others. Mr. Meachin was a close second, his plants, although smaller, being remarkable for their finish and freshness, the best being *Erica retorta* major in fine bloom, a capital *Rondeletia*, a *Stephanotis*, a *Vinca*, and *Allamanda Hendersoni*. The prizes in the smaller class of four stove and greenhouse plants were awarded—first, Mr. J. Child, gardener to Mrs. Torr, Ewell; second, Mr. W. Miles, West Brighton Nursery; third, Mr. W. Huggett, gardener to Dr. Jeffery, Eastbourne. A few good plants were brought into competition for the prizes for single specimens, Mr. W. Balchin being first with a grand example of *Allamanda Hendersoni*, with such an abundance of flowers that we could not but regret they were not distributed equally about the plant instead of being brought together in a crowd to form a "face." Mr. Meachin came second with so good an example of *Vinca rosea* that the Judges must have experienced some difficulty in coming to a decision. The plant was one mass of bloom and some 4 to 5 feet in diameter. In another class for single specimens Mr. Howick, gardener to A. Granville Utterware, Esq., was first and Mr. Meachin second. The six *Coleuses* with which Mr. Howick easily gained a first prize formed one of the most striking features in the tent. They were trained to the form of low cones, very broad at the base, tapering upwards with singular precision and were very bright in colour. Mr. Balchin's first-prize group of eight exotic Ferns consisted of *Davallia Mooreana*, very fine; a good *Dicksonia antarctica*; *Adiantum concinnum latum*, a mass of elegant dark green fronds; *Davallia pyxidata*, 6 to 8 feet in diameter; *Cibotium regale*, looking well worthy of its name; *Davallia elegans*, 3 to 4 feet high; and fine plants of *Dicksonia squarrosa* and *Alsophila australis*. In the group with which Mr. Child took second honours there were an excellent *Leptopteris superba* with fine dark green, pendant, fringed frondage, and a *Gleichenia Mendelii* in good health, 5 to 6 feet in diameter.

The response to the offer of a cup value £10 for ten Orchids by the Brighton Railway Company was unsatisfactory, only two lots of small plants being staged. Of these, the ten shown by Mr. Rutland, gardener to the Duke of Richmond, gained the cup, Mr. Meachin coming second with a group very little inferior to the others. *Begonias* in flower were much better than at the summer show, Mr. E. Cosham, gardener to R. Insoll, Esq., Eastbourne, being first with four large and very handsome plants. *Fuchsias* were also very good—much better than we have ever seen them at Brighton, and were shown in considerable numbers, Mr. W. Penfold taking first honours, Mr. Shrivs second, and Mr. Meachin third. Zonal *Geraniums* were excellent and numerous; gold and silver tricolors were also represented fairly well. Here Mr. Meachin shone pre-eminent, taking all four first prizes. Useful groups of mixed plants were contributed by Mr. Spary, Mr.

Miles, and Mr. Balchin, the three Brighton nurserymen, which were much admired by the visitors, who further gained many useful hints from the courteous attendants about novelties for conservatory decoration.

TABLE DECORATIONS.—These were confined to sets of three stands. Mrs. W. Seale, London Road, Sevenoaks, taking first prize; Mr. R. Downing, gardener to A. Allison, Esq., Crawley, second; and Mr. F. W. Seale third. The whole of the stands were meritorious, lightness, elegance, and refinement being prominent characteristics in every one of them. This feature of the Show was a popular one, and we heard repeated expressions of delight from the throngs pressing along the sides of the tables.

CUT FLOWERS.—*Asters*, *Dahlias*, *Zinnias*, and *Verbenas* were all well represented. *Gladioluses* were not so plentiful, only two collections being staged; Mr. S. Dobree, Wellington, Somerset, taking the first prize, and Mr. Balchin second. The stands of twenty-four varieties of cut flowers were very beautiful, Mr. Rutland and Mr. Balchin both taking first prizes.

FRUIT.—The display of fruit was a noble one, the Grapes being especially remarkable for size and finish. Black Grapes were well coloured almost without exception, and the bunches so good that the contest for prizes was a severe one. For three bunches of Black Grapes Mr. J. Spottiswood, gardener to C. Duddell, Esq., Queen's Park, was first in two classes, his Black Alicante being excellent; Mr. G. Osborne being first in the class for six bunches of Black Hamburg. Mr. C. Tyler of Bishop Stortford gained a first prize with his Muscat of Alexandrias, as also did Mr. G. Osborne. Melons were both numerous and fine, there being upwards of thirty fruit, Mr. J. Budd, Mr. S. Ford, and Mr. Holford taking prizes in the open class in the order in which they are named, and Mr. Atrill, Mr. Wickham, and Mr. Wilkinson doing the same in the county class. Some good collections of fruit were shown, Mr. Rutland taking the first prize. Peaches, Nectarines, Plums, and Pears were all shown in considerable quantities, and the exhibition of Apples was especially good, the dishes, especially of kitchen Apples, being very numerous and the fruit fine.

Our report would be incomplete without reference to the wax flowers for which Brighton is so famous. An extensive collection of such flowers as Roses, baskets of blue and white Violets, Primroses, and Lily of the Valley, sprays of Passion Flower, Apple blossom, Orange blossom with foliage, Azaleas, Camellias, Heliotropes, dinner-table stands, hand bouquets, and plants in pots, all done so skilfully and so closely resembling Nature as to merit general appreciation.

HYDE PARK.

WHATEVER may be said in praise of either Battersea or Victoria Parks they certainly do not eclipse Hyde Park, although at a first glance, being more compact, the effect may be more striking. In Hyde Park are to be found long avenues of shady trees, consisting principally of Elms and Planes; delightful banks sloping down to the Serpentine, and many pleasant walks, rides, and drives, altogether offering such facilities for enjoyment as most country towns and villages might well envy.

A great feature, and what adds so much to the attractions of this and other parks, is the summer bedding. This is always carried out extensively and well, thus giving pleasure to thousands of visitors, and also helping to promote and improve this branch of gardening throughout the country. The present season has been rather unfavourable to bedding plants generally, but at the same time we find that Nature compensates here as elsewhere, for where we usually saw parched and sun-burnt banks we now find the grass and vegetation generally remarkably fresh and green.

Early in the season the Pelargoniums and other kindred bedding plants looked wonderfully bright and well, but they now look sadly alongside of their brighter if lowlier neighbours in the carpet beds. The latter are scarcely so neat as they were a few days back: this is the consequence of taking all the men to do other really more important work—viz., the remaking of paths and roads and renewing the turf wherever necessary, of which there is much to do every season. Others would do well to take Mr. Chamberlain's advice in this respect, he rightly considering this the best time for the work. Grass seed sown now will form excellent turf well able to withstand drought the following season, which is seldom the case with spring-sown lawns, at all events where the soil is as shallow as in Hyde Park.

The flower beds between the Marble Arch and Stanhope Gate consist of a series of plain beds in lines, around which are to be found the principal carpet beds and the ordinary bedding plants. As before stated, the carpet beds look much the brightest, and are certainly well done. Some of the beds

are perfectly flat; others, however, are a step in the right direction, being dotted with many varieties of succulents and other plants, which help to relieve the extreme flatness considered so unnatural and objectionable by some. The brightest coloured plant used is the *Alternanthera amena*; the prettiest and best green, the *Mentha Pulegium gibraltaria*. The Golden Feather is still indispensable and is used in large quantities. The old-fashioned bronze *Oxalis corniculata rubra* is also used and looks extremely pretty. Some of the designs are quite original and well worthy of imitation.

Pelargonium Bonfire is the only variety found with any quantity of bloom, most of the others looking very weather-beaten and appear to have suffered more than those in many private country gardens. Mixed beds still look attractive, notably two filled with a mixture of silver variegated *Pelargonium Miss Kingsbury* and *Iresine Lindenii*, surrounded with *Golden Pyrethrum* and edged with a blue *Lobelia*; and another pair filled with a mixture of silver variegated *Pelargonium Ariosto*, and edged with *Alternanthera paronychioides major* margined with *Echeverias*.

It is, however, between the Wellington and Albert Gates, or south-east side of the Park, where the most generally interesting beds are to be seen. These are also plain beds, and are irregularly placed on both sides of the drive and intermingled with the large deciduous and other trees. Some are on, others above the level, and others again springing out of the banks. Raised beds are frequently found fault with, but for showing off subtropical plants they are unequalled, and being better drained are certainly more conducive to success. Many of the largest beds are filled with subtropical plants, and there are many specimen Palms dotted and grouped among them. Very noticeable are two fine specimens of *Scaevola Cunninghamii*. Of other specimen Palms used are good examples of *Chamærops Fortunei*, *Phoenix farinifera*, *P. reclinata*, *Latania borbonica*, &c. Two beds of succulents arrest attention, in which plants of *Yucca aloifolia variegata* appear to the best advantage. A bed of *Musa ensate* also looks grand, as do the *Cannas* and *Solanums*, although I did not observe anything new among them. One large bed filled with *Erythrina crista-galli*, with a few plants of variegated Maize intermingled and edged with ordinary bedding plants, was earlier in the season very attractive. Among the general bedding plants I noticed *Coleus refulgens* as being a capital substitute for the *Perilla*. It is nearly as compact as *Coleus Verschaffeltii*, and the colour the counterpart of the *Perilla*. *Tricolor Pelargonium George Sandy* looked very bright, but is scarcely so vigorous as one would wish. This, however, is a recommendation if used as at Hyde Park—i.e., dotted among *Lobelias*.

A short distance from and nearly opposite to the Albert Gate is to be found a delightful nook or dell, which is undoubtedly one of the prettiest spots in the Park. It is nearly triangular in shape, and is surrounded on two sides by banks of evergreen shrubs and deciduous trees. The enclosure gradually slopes to the ends in an irregular line down to a watercourse. Springing out of this on both sides at intervals are Ivy-covered banks, on which are grouped plants of *Aralia Sieboldii*, *Phormium tenax variegatum*, *Monstera deliciosa*, &c.; and following the water in the distance are to be seen large specimens of *Cordylines indivisa* and *australis* springing from among the banks of evergreens. In the centre of the enclosure is plunged a magnificent specimen of *Latania borbonica* fully 15 feet in diameter; and about this are artistically grouped but not crowded, the pots or tubs being plunged in the turf, numbers of fine tall specimens of *Cordylines nutans*, *australis*, and *lineata*; *Scaevola elegans*, *Latania borbonica*, *Musa ensate*, *Chamærops excelsa*, *Pandanus ornatus*, &c. On the banks sloping towards the drive, running past the Albert and Wellington Gates, are placed several very fine beds filled with subtropical foliage plants. The largest, a circular bed 36 feet in diameter, is undoubtedly the grandest bed in the Park. In the centre is a very fine *Musa ensate*, and around this are arranged other *Musas*, *Ricinus*, *Solanums*, *Eucalyptus*, *Pol-hymnia grandis*, variegated Maize, &c., surrounded with a band of *Perilla nankinensis* and fringed with *Funkias*: all look healthy and very vigorous. Near this is a bed filled with Palms. Large beds of *Cannas* also look well.

Many large clumps of deciduous and evergreen flowering trees and shrubs with a margin of herbaceous plants help to make the Park attractive. Altogether there is much in the Park worthy of imitation by gardeners, and no doubt there is something to avoid; but I am reminded that it is easier to find fault than to suggest remedies, to criticise than to instruct. Mr.

Gibson and his coadjutor Mr. Chamberlain deserve a hearty vote of thanks for the excellence of their work; let it be given ungrudgingly by the many who have derived pleasure and instruction from the exercise of their taste and skill.—W. J. O.

BRENTWOOD HORTICULTURAL SOCIETY.

AUTUMN SHOW, SEPTEMBER 12TH.

Do not committees frequently err by holding flower shows early in the season? If (when only one show can be provided for) instead of June and July they selected the end of August or early in September, a much more varied and interesting show of fruit, vegetables, and florist flowers would be obtained, and nearly, if not quite, as good a display of plants; the only real loss would be hardwooded plants, but the gain in other classes would be abundant compensation. Fruit, especially when well and largely shown as at Brentwood, cannot fail being admired; it is also instructive to a number of competitors and visitors.

At the Show under notice plants were of secondary importance, and but few prizes were offered for them. For a miscellaneous collection Mr. Bones, gardener to D. McIntosh, Esq., was first, and Mr. Bradley, gardener to O. E. Coope, Esq., M.P., was second, both showing excellent groups. Mr. Mann, nurseryman, Brentwood, had some excellent *Fuchsias*, and received the first prizes in both classes for them. The baskets of plants in pots were very good indeed, and other societies would do well to provide a similar class. Messrs. Saltmarsh & Son, Chelmsford, were first, and Mr. Ford, Warley, second. *Pelargoniums* were also well shown, Mr. Mann having the best.

Cut flowers were exhibited in great numbers, the Dahlias and Asters being very fine. In the class for twenty-four Dahlias Messrs. Rawlings Bros., Romford, were first with a very fine and even lot, the names of which, for the benefit of exhibitors, we append:—John Bennett, James Willing, John Standish, James Service, J. H. Keynes, James Cocker, Rev. J. B. M. Camm, Clara, Rev. J. Goodday, O. E. Coope, Countess Tasker, Flora Wyatt, Mrs. Harris, Alexander Cramond, Julia Davis, Monarch, Christopher Ridley, T. Goodwin, Countess of Pembroke, Mrs. J. Downie, Willie Eckford, Henry Walton, Mrs. Shirley Hibberd, and J. W. Lord. Messrs. Saltmarsh were second. In the amateurs' class for twelve Mr. J. Hill, Warley, had an excellent stand and was first, and there were also several other good stands both in this and the class for six, where Mr. C. Lavender, Sherfield, was first. For twelve Roses Mr. Atkinson, Brentwood, was first with excellent blooms of *Souvenir de la Malmaison*, *Marie Baumann*, *Madame Victor Verdier*, *Dupuy Jamin*, *Alfred Colomb*, *Sénateur Vaisse*, *Baronne de Rothschild*, *Countess of Oxford*, *Charles Lefebvre*, *Duke of Edinburgh*, *Maréchal Niel*, and *Etienne Levet*, all alike of good size and colour, and superior to stands which sometimes gain the premier awards at local summer shows. Many of the varieties named were in the other stands and classes, and we noticed some excellent blooms of *Marquise de Castellane*, *Beauty of Waltham*, *La France*, *John Hopper*, *Captaine Christy*, *Edouard Morren*, and *Madame Pauline Lafontaine*.

The vases for table decoration were very tastefully filled, but were much too tall, several of them being fully a yard or more in height. Messrs. Burley, Bailey, and Soder were successful in these classes.

For a collection of six varieties of fruit Mr. Bones was a creditable first, and Mr. Pope, gardener to W. R. Preston, Esq., Harold Wold, a good second. None of the Grapes in the various classes, with the exception of *Lady Downe's*, shown by Mr. Carver, gardener to C. Postans, Esq., Brentwood, and Mr. Worthing, gardener to A. Moss, Esq., Chadwell Heath, were particularly good, in some instances being too ripe, in others—the *Muscats* more especially—being scarcely ripe enough. Messrs. Ford, Carver, and Bones were all winners of first prizes in the classes for Grapes. Mr. S. Ford was first for a green-fleshed Melon with an unnamed fruit resembling *Eastnor Castle*, and Mr. Bones for a scarlet-flesh with a small fruit of *Hero of Bath*. The first prizes for both indoor and outdoor Peaches were awarded to very fine fruit of *Late Admirable*, the former being staged by Mr. Clark, Brentwood, and the latter by Mr. S. Ford; and the chief prize for *Nectarines* grown on the open wall was awarded to Mr. Parker, gardener to the Countess Tasker, for a fine dish of *Murrey Nectarine*. Pears were shown in great quantities, but in many instances *Williams' Bon Chrétien* was too ripe, the first prize for a dish fit for the table being awarded to Mr. J. Smith with *Louise Bonne of Jersey*. For dessert Apples Mr. Iggulden, gardener to R. B. Wingfield Baker, Esq., Orsett Hall, was first with *Red Astrachan*, the majority of the opposing dishes being unripe. A fine clean dish of *Lord Suffield*, staged by Mr. Bones, gained the first prize for kitchen Apples. The Judges, however, preferred appearance to weight, as there were many heavier dishes of good varieties unnoticed. Plums were staged in comparatively small numbers. *Magnum Bonum* and *Pond's Seedling* were the best kitchen, and *Coe's Golden Drop* and *Jefferson* the best dessert varieties.

Vegetables were staged in very good condition both by the gardeners and cottagers, though in smaller quantities than usual.

For a collection of nine dishes in the gardeners' section Mr. Iggulden was a good first, and Mr. C. Bishop had a similar award for six dishes. For a collection of three dishes of kidney Potatoes Mr. Iggulden was first, and also for three dishes of rounds; for the former staging good examples of Lapstone, Prince Arthur, and Snowflake, and the latter Model, Carter's Main Crop, and Schoolmaster. Celery was fairly good, but scarcely solid enough to be entitled to the awards. Mr. W. Harrington was first. Mr. Carver was first in the class for autumn-sown Onions with a very ugly lot, weight being the only recommendation. The spring-sown were very good, Banbury Improved being the favourite. Mr. Walker, Sherfield, was first. Mr. Quennell was first for Cucumbers with Tender-and-True. For Tomatoes Mr. Farrance, nurseryman, Chadwell Heath, was first with a remarkably fine dish of Trophy Improved, which was undoubtedly one of the best exhibits in the Show. This variety resembles that sometimes exhibited under the name of Stamfordian.

Farmers' produce was also well and largely shown, especially for the cups presented by Messrs. Sutton & Sons, Reading, and Messrs. Carter & Co., High Holborn. The Show was well arranged and highly creditable to Messrs. Earchy & Haws, the Secretaries, and it was also well attended.

THE WARS OF THE ROSES.

I HAVE waited a week to see whether anyone would answer Canon Hole's letter under the above heading on page 183, complaining of the place to which I assigned him in the Rose contests. No one having done so, I think it is only fair to myself to say that I had good reason for giving him the third place, and that in doing so if I erred at all it was on the side of generosity. I have grown and shown Roses now for eight years, and have never missed a Crystal Palace, South Kensington, Alexandra Park, Hereford, or Exeter Show, and I never yet saw Mr. Hole win a first prize. It is true I have not been so far north as Manchester, where Mr. Hole has won first prizes; but as one swallow does not make a summer, so gaining a prize at one show does not make Mr. Hole the premier exhibitor.

It is not a very edifying occupation to blow one's own trumpet, but when anyone does so it is as well to have good cause for doing it.

If necessary I can quote the number of prizes Mr. Baker has won in the eight years I mention; but I may merely say now that in two years he swept the board at the Crystal Palace—i.e., took every first prize, and that he has repeated the same feat at Exeter and Hereford.

If it comes to a matter of first prizes at grand shows during the last ten years, I could name other amateurs who are far before Mr. Hole; but in placing him where I did I was treating of the metropolitan shows of the National Rose Society, at which he has twice secured, not the first, but the third prize.—WYLD SAVAGE.

WORK FOR THE WEEK.

HARDY FRUIT GARDEN.

LITTLE requires to be done in this department at this time of year except attending carefully to the ripening fruit. Wall trees should be examined every morning, and all Peaches, Nectarines, and Plums should be removed as soon as ripe; they are improved in flavour by being kept for a few days on padded shelves in a well-ventilated fruit room. Figs ought to be allowed to ripen fully upon the trees, unless they have to be sent a distance, when they should be gathered before becoming over-ripe. Early Apples and Pears are deteriorated by remaining too long upon the trees, they having a tendency to become mealy and deficient in flavour, while if gathered too soon the fruit will shrivel; they, as a rule, should be left upon the trees until indications of ripening set in, and should then be gathered and placed in an airy fruit room to ripen. A few fruits gathered daily, weather permitting, will tend to prolong the supply. Nothing tends so much to prolong the season of early Pears as having a tree or two of the same kind upon different aspects. Jargonelle, for instance, upon a south wall will be in a fortnight before those from trees in sheltered situations in the open, or a week or more before those from trees against an east or west wall, and those from trees against a north wall will follow. Similar remarks apply to Williams' Bon Chrétien, Marie Louise, &c., that are not of long continuance. All kinds of fruit that it is found necessary to keep upon the trees for some time, either from not being ripe or to prolong the season, such as Morello Cherries, late Peaches, Coe's Golden Drop and Blue Impératrice Plums, should be netted up; and if wasps are troublesome cover the trees with hexagon netting, and hang bottles in front of the netting half filled with sweetened beer. In gathering Apples and Pears some experience is necessary to do it at the proper time. As a rule, the fruit is fit

to be gathered when it parts readily from the trees by gently raising or inclining it so as to exert some little pressure upon the footstalk. Great care must also be taken in gathering the fruit so as not to bruise or injure it in the least degree, or it will not only not keep well, but will be spoiled in appearance. Any pecked or otherwise damaged fruit should be separated from the sound and employed for present use. Go over for the last time bush, pyramid, espalier, cordon, and wall trees, removing all unnecessary shoots so as to give the ripening fruit the full benefit of sun and air and to mature the buds for future bearing. Let the shoots of wall trees be securely nailed or tied-in, as they often suffer much injury from the autumn gales.

Autumnal Raspberries are exceedingly useful for giving flavour to Red Currant tarts; they also make a nice addition to the dessert. Notwithstanding that there are plenty of worms, the birds are just as fond of Raspberries in October as in July; therefore nets must be employed. Every garden should have a row or two of October Red and October Yellow planted in an open yet sheltered situation in soil moderately light and well enriched. Hints on cultivation will be given in due time.

The Lawton Blackberry is worthy of more extended culture, giving, as it does, an abundance of fine fruit for tarts or jam in late summer and autumn. The old fruiting canes should be cut out so soon as the fruiting is over, and the growth of this year's production moderately thinned out—i.e., the weakest and least unripe shoots, retaining the strongest for future bearing.

ORCHARD HOUSE.

Late Plums, Peaches, and Nectarines should be placed together, so that they may be syringed until the fruit commences ripening, when it must be discontinued until the fruit is all gathered, when the trees may be placed outdoors, and syringed every evening if the weather be dry. If the trees are infested with aphides, red spider, or other insects, apply some approved insecticide. Dryness at the roots must not be allowed, or the bloom buds will fall off. The ventilators should remain open day and night, with hexagon netting over them so as to exclude wasps and flies, but in windy weather the ventilators should be wholly or partially closed.

FLOWER GARDEN.

Roses are seldom attended to in late summer with abundant supplies of liquid manure, hence they do not perfect good blooms, the leaves falling prematurely from poverty at the roots. If well attended to they will afford good blooms for some time to come, the weather being propitious. All long sappy growths should be cut back so as to prevent them being injured by the autumn gales, and if ripe shoots without the eyes started be inserted under a north wall they will root freely, more especially if covered with handlights until a callus is formed. All climbing Roses should have the old weak wood cut out and the young growths trained-in rather thinly, so as to expose them fully to light and air and insure their thorough ripening. Exceptions are the old Banksians, which for affording cut blooms in spring are very valuable, but it is rarely they are seen showing anything like the flowers they are capable of producing. They flower on the short medium-sized wood; therefore any shoots having a tendency to grow beyond a foot in length should be cut clean out, leaving only sufficient of the medium-sized growths that can be fully exposed to sun and air with a view to their being well matured.

Violas are very useful for bedding, particularly in wet seasons. Cuttings should now be inserted in rather light soil upon an east border, selecting the cuttings from the best of the plants, making the soil firm about them, and giving a good watering. Vestal, White Swan, Mrs. Henry Pease, and Lady Gertrude of whites; Blue Bell, Royal Blue, Perfection, and Holyrood of blues; Crown Jewel, Corisande, and Lutea grandiflora of yellows; Lilacina, The Lady, and Rubra lilacina of lilacs, are all fine. They are very suitable for cold moist localities.

Bulbs for Outdoor Planting.—Now is the time to secure them so as to have them in readiness to plant as soon as the beds are cleared of their summer occupants. In addition to Hyacinths, Tulips, &c., which are employed for grand displays, we will mention a few that should be found in every garden on account of their value for cutting. In Narcissuses, biflorus, poeticus single and double, Bulbocodium, Incomparable, and Sulphur Kroon, single Campernelle, and single sweet-scented Jonquils, Triteleia uniflora, English and Spanish Irises both in great variety; Iris reticulata, Allium azureum, A. aureum, A. neapolitanum, A. triquetrum, Alströméria aurea, A. psittacina, Anthericum Liliago, A. Liliastrium, Scilla nutans and vars. alba, rosea, and rubra, which though only varieties of the Wood Hyacinth are very desirable; Anomatheca cruenta, Gladiolus blandus, communis albus, Byzantinus, cardinalis, communis rosens, insignis, Colvilli and var. albus, all of which should be planted forthwith 4 to 6 inches deep, and they will go increasing in size and beauty from year to year.

PLANT HOUSES.

Greenhouse.—All hardwooded plants must at once be placed in their winter quarters. Boronias, Phenocomas, Tremandras, Pimeleas, and Gompholobiums should have the lightest positions, which with Leschenaultias should have a night temperature of

45° to 40° from fire heat. Epacris and Eriostemons will bear a lower temperature, but 40° to 35° at night should be a minimum. Elevate the whole near the glass, and do not crowd them, but so arrange them that light may reach to the base of the plants. Heath generally, if no separate house for them be provided, should be placed at the coolest end of the house, so that by giving more air at that part their requirements may be met.

Azaleas that flowered early and were started into growth at once will be full of buds in a forward state, and should be kept in a cool airy house with plenty of light, from which they may be draughted as required to gentle heat, in which they will soon expand the flowers. A. Borsig, Fielder's White, Narcissiflora, amona, Flag of Truce, Raphael, Queen Victoria, and Vittata elegans are fine for early work. They should not be closely tied; indeed, for forcing to cut from they require very little tying. Late-flowering plants should be at once tied into form, for if done now the points of the shoots assume their natural upright position before flowering, which would not be the case if the tying is deferred until the wood has become hardened.

Camellias should, if placed outdoors (not a good practice), be taken in before heavy rains or frost occur, either of which are sufficient to cause the buds to fall. The buds if very thickly set must be thinned to one, or at most two to each shoot. Those plants with the buds advanced and required for early flowering may, if wanted to flower early, be placed in a house having a temperature by artificial means of about 50° with moderate moisture, but there must be no great increase of temperature over that of an ordinary greenhouse, or the buds will in all probability fall.

Hyacinths, Narcissus, Tulips, and Crocuses should be at once secured and potted. Sound instructions were given last week, and are continued this week, by Mr. Moorman relative to those popular flowers. Chrysanthemums must be at once staked and trained as soon as possible. The flower buds should be thinned and liquid manure should be liberally given to the plants. Cyclamens should be kept near the glass and have every encouragement to make a good growth. They are the better of gentle warmth—50° by artificial means.

Violets intended to be placed in frames should be at once taken up with balls and planted in turfy loam with a fourth of well-decayed manure and a like quantity of leaf soil. The situation for the frames should be a sheltered one, and if the foliage of the plants be about 9 inches from the glass all the better. Any old yellow leaves may be removed, but avoid trimming off any green leaves. Firm the soil moderately about the roots, and give the plants a thorough watering. The lights need not be put on until frost or heavy rains set in. Pot a few dozen plants of such as Victoria Regina, New York, and De Parme, employing the compost above named, placing them in a shady position for a few days, and when established they may be placed upon shelves under glass, where they will receive plenty of air and have a night temperature of 45° to 40°. They will flower freely, and are useful for disposing indoors on account of their agreeable perfume, besides affording flowers when plants in frames are bound-up by frost and snow.

TO CORRESPONDENTS.

BOOKS (Juvenile).—There is Harvey's "Flora Capensis," which is a large book, and perhaps more than you want; but there is also a synopsis of it in a portable form which might suit you. We do not know who is the publisher of the latter; we rather think it is published at the Cape.

GLASS FOR VINERY (T. B., Hartlepool).—We should use the 21-oz. glass which will answer admirably for glazing the roofs of your vinery and plant house.

MANURING FLOWER BEDS (Rector).—Your beds now occupied with Geraniums, and to be planted with bulbs this autumn, again to be occupied with Geraniums next summer, should have a good dressing of very much decayed manure before the bulbs are planted, digging it in deeply so as not to be in actual contact with the bulbs. Wood ashes or burnt refuse of any sort might be advantageously applied in addition to the manure, also sand or gritty matter if the soil is at all heavy. If the beds are well enriched for the bulbs no manure will be requisite for the succeeding crop of Geraniums.

CLIMBING ROSES FOR CONSERVATORY (Verax).—We shall shortly publish notes on this subject from a successful cultivator.

GRAPES DECAYED (R. W. B.).—The berries sent are quite decayed and covered with fungus. They not only suggest that the roots of the Vines are in wet ungenial soil—sour and stagnant, but that the temperature of the house is too cold and the atmosphere too close and moist. In a marshy position such as you describe, the Vine border ought to be formed entirely above the general level of the ground. The Vines inside should be trained thinly, the rods being not less than 3 feet 6 inches apart, the laterals being 18 inches apart on both sides of the rods, and the Vines 18 inches from the glass. It will be easy then to secure ample yet uncrowded foliage. The temperature at this period of the year should never be below 60° with ventilation. You do not state the age and condition of growth of the Vines, so that we are unable to state whether or not lifting the roots would be advisable.

PASSIFLORA CASTING ITS FLOWER BUDS (Corbie).—It sometimes is the result of over-luxuriance, the supply of water to the roots not being commensurate with the growth. We find the best remedy is to top-dress with rich compost—turf loam and horse droppings in equal proportions. This attracts the roots to the surface. We water liberally after the buds show, and train the shoots rather thinly and near the glass, so as to have

the growths solidified. When the shoots show flower they ought to be allowed to hang down. If the top-dressing would be an objection apply weak liquid manure, 1 lb. guano to twenty gallons of water, and apply it in such quantity as to thoroughly moisten the soil.

EXHIBITING FERNS (J. S.).—*Adiantum Capillus-Veneris* magnificum would, we think, be admissible in a collection of British Ferns.

MANAGEMENT OF FIGS (G. C.).—When Figs are grown out of doors or in an unheated house all attempts to produce a second crop should be checked by pulling off all the little fruits as soon as they are sufficiently large to get hold of. The tree will then make another effort at fruiting along the whole length of the current year's growth, and the chances are that the embryo fruit—that which would be the third crop in a favourable climate—will just advance to the right stage for remaining dormant through the winter. The point to aim at is to have in autumn before the fall of the leaf the greatest possible quantity of little plump buds about the size of a Radish seed on thoroughly ripened wood. You can do some good now by pulling off the fruits immediately, especially if the autumn remains favourable, but the results would have been better if they had been kept pulled off as fast as they formed.

SELECT GOOSEBERRIES (A. M. G.).—*Green:* Green Gascoigne, Green Overall, Green Walnut, Heart of Oak. *Yellow:*—Early Sulphur Rockwood, Yellow Champagne, Broom Girl. *Red:* Ironmonger, Keens' Seedling, Red Warrington, Turkey Red.

TO DESTROY GOOSEBERRY CATERPILLAR (J. P.).—Place a thick layer of spent tan from the tanyard 2 or 3 inches thick all round your Gooseberry bushes and dig it in in the spring. This is an excellent preventive of caterpillars.

DISEASED PEACHES (Hon. Mrs. H. Freake).—The Peach is attacked by a fungus called *Oidium fructigenum*. It has been very prevalent this season, and is no doubt, attributable to atmospheric influences like all fungoid diseases in plants. We do not know of any remedy for it unless it be sulphur. The leaves are perfectly healthy.

BOAT HOUSES (Capt. Callaghan).—We do not know of any work that treats on the erection of boat houses. Perhaps you may find something on the subject in works on rural architecture, but we are sorry we cannot assist you.

MALFORMED GRAPE (H. Brace).—A Tomato could not impregnate a Vine; still we are not surprised at your conjecture, for the berry you enclose has the shape of a Tomato. This is caused by the union of two or more ovaries, the various sutures causing the resemblance alluded to.

DISCHARGED GARDENER (J. T.).—If you have misconducted yourself and your employer has in consequence discharged you, you cannot claim a month's notice or a month's wages.

DRAINING GARDEN (E.).—Your best plan will be to dig a few trial holes quite 3 feet deep, having them covered and so protected that surface water cannot drain into them. Let them remain during the winter, and if no water collects in them your soil will not need draining. The fruit shall have our attention.

ARALIA JAPONICA (R. H. A.).—It is hardy in the south of England. Your shrub may be safely transplanted early in November if proper care is exercised during its removal.

RED CABBAGE BURSTING (Alex. Doyle).—The only remedy is to cut them or take the plants up and lay them in by the heels in an open shed in moist soil, though lifting and laying-in with the heads to the north would act as a check to growth, and to some extent would lessen the evil.

THRIPS ON FERNS (G. Barrack).—The frod sent us shows abundant evidence of thrips, which undoubtedly are the cause of the spots. Fill the house with tobacco smoke upon two consecutive evenings, and repeat the process in a week. It is necessary that Ferns have the fronds dry when fumigation is practised, and that the house be no more than filled with smoke so that the plants cannot be seen from the outside through the glass; the fronds will be injured by an overdose of smoke, and an under one will not destroy the pests.

CLIMBERS FOR GREENHOUSE FERNERY (S. Fisher).—*Plumbago capensis*, *Habrothamnus fascicularis*, *Lapageria rosea*, *L. alba*, *Passiflora Comte Nesselrode*, *P. Imperatrice Eugenie*, *Tacsonia insignis*, and *Bignonia jasminoides splendida*, are all suitable. We presume that you require them for affording shade to the Ferns, which is required from March to October. *Lygodium scandens* is useful for clothing pillars, &c., and *Ficus repens* for covering walls.

STOCK FOR MRS. PINCE GRAPE (J. Gilchrist).—White Lady Downe's would answer as a stock for Mrs. Pince, the stock being strong and healthy. Mrs. Pince, however, does well upon its own roots.

VINES IN POTS (Norwich).—There is no reason why you should not fruit the Vines now in pots by planting them out in a bed or border. All that is necessary is to turn them out with the ball entire and ram the soil well around them, forming a dish at the surface around the cane as far as the ball extends, to make sure of the water passing through the ball and thoroughly moistening it until the roots are working freely in the surrounding material.

CYCLAMENS (E. R.).—It is not easy to determine the Cyclamen flowers without the leaves. The pink one is evidently *C. europæum*, and the larger white one *C. hederæfolium album*. If you enclose flowers and leaves, with a stamped envelope enclosed with your address, and send it to James Atkins, Esq., Painswick, you will no doubt obtain the desired information.

HEATING VINERY (Lancashire Surgeon).—As you do not intend forcing the Vines you will not require more than two rows of 4-inch hot-water pipes, which should be raised about 9 to 12 inches above the border, and about 3 feet from the front wall, having them alongside each other. We should have an improved saddle boiler of 3 feet length fixed in a shed at the back of the house, taking the pipes across one end of the house and then along the front. The flow pipe must rise from the boiler to the point whence the return is made to the boiler, and from that point the return pipe must decline; but if it has the same incline as the flow pipe until it reach within a few feet of the boiler it will be sufficient, being taken down by an elbow to join the return socket of the boiler. At the highest point in the pipes must be an air pipe, and taken to the upper part of the roof with its end curving downwards; if taken outside all the better. In the shed over the boiler you will need a water cistern, with a supply pipe to the return pipe or lower part of the boiler, the water in the cistern being just high enough to three-parts fill the pipes at the highest part with water when cold, the supply

to the cistern being regulated by a ball-tap, and the supply pipe to the boiler having a check valve so as to prevent the water flowing up the supply pipe and running over by the cistern. Any horticultural builder could supply you with the materials, and they could be fixed by a bricklayer and handy smith, or the person supplying the materials would undertake to fix them. We cannot recommend tradesmen, but any advertising in our columns would serve you satisfactorily.

EDGING PLANTS (*H. E. B.*).—The following are good edging plants:—*Ajuga reptans rubra*, dark purple leaves; *Arabis alpina variegata aurea*, *Aubretia purpurea variegata*, *Cerastium tomentosum*, *Eunymus radicans variegatus*, *Iberis semperidorens fol. var.*, *Sedum aurea variegata*, *Sempervivum californicum*, *Stachys lanata*, *Stellaria graminea aurea*, and *Thymus citriodorus aureus*, all of which are hardy. The following are more or less tender:—*Iresine Lindenii*, *Peristrophe angustifolia aureo-variegata*, *Sedum Sieboldi medio-picta*, *Mesembryanthemum cordifolium variegatum*, *Guaphalium lanatum*, *Santolina Chamæcyparissus*, *Leucophyton Brownii*, *Alternanthera* in variety, *Echeveria secunda glauca*, *E. pumila*, *Alyssum variegatum*, with *Lobelias* and Golden Feather *Pyrethrum*.

TRANSPLANTING CAMPANULAS (*Idem*).—The plants would receive a slight check by transplanting, but if done carefully they would speedily recover. They may be moved now, but preferably in early spring.

ROSES SHEDDING THEIR LEAVES (*Idem*).—There are spots of mildew upon the leaves, induced by drought and poverty of soil. Manure well, and in future seasons water copiously in dry weather with liquid manure after the buds show, mulching the surface with short manure.

COURT-PENDU-PLÂT (*C. H. Lucas*).—The Apple and its name are both French, and the latter signifies the Short-hung Flat, from the very short stalk and the flat shape of the fruit. It has no reference to plate.

ERRATUM.—The *Araucaria imbricata*, referred to last week on page 208, is in the garden of Mr. Bousted, Settlebeck, Sedbergh, Yorkshire; not "Mr. Dousted, Jedburgh," as printed.

CANNING TOMATOES (*H. Camps*).—A simple and usually satisfactory way of canning tomatoes is to pour boiling water over a desirable quantity of ripe tomatoes to loosen the skin; let them lie a few minutes, peel them, draining well first; cut out all green places, then set on the fire, and after they have commenced boiling boil for fifteen minutes. Have your cans ready and very hot, fill full, and seal each one immediately as it is filled. Some prefer to boil the tomatoes till they seem almost dry; others, again, claim that merely scalding them is best, and that they taste fresher when merely brought to the boiling point.

NAMES OF FRUITS (*C. & Co.*).—40, Doyenné Boussoch; 55, Flemish Beauty; 57, Bellissime d'Hiver; 81, Jersey Gratioli; 77 and 111, Not known. (*T. S.*)—1, Formosa Nonpareil; 2, London Pippin; 3, Nelson Codlin; 4, Not known; 5, Not known; 6, Trumpington. (*W. D. Paine*).—20, Winter Hawthornden; 25, Christie's Pippin; 33, Not known. (*H. Loftus, Tottenham*).—It is an American Grape, called Isabella. (*Connaught Subscriber*).—Poire Pêche. (*H. H.*)—1, Green Yair; 2, Hesse Pear; 3, Beurée Capiaumont; 4, Irish Peach. (*G. Kent*).—1, Not known; 2, Newtown Spitzenberg; 3, Flower of Kent.

NAMES OF PLANTS (*Mrs. L.*).—It is the common Reed Grass (*Phragmites communis*). It will do in any damp place, and if you have not such an one you might make a small tank, which might be kept full of water, or an old tub sunk in the ground would answer the purpose. (*M. G. J.*).—1 and 3 are both varieties of *Begonia Pearcei*. No. 3 is very good. No. 2, *B. Weltonensis*. (*Flowering Shrub*).—*Lycyesteria formosa*. (*A. F. G.*).—*Polygonum Sieboldi*. (*S. W.*).—*Adiantum petatum*, a beautiful Fern, but rare. It thrives out of doors in the southern counties, but is best when grown in a greenhouse. It is a native of North America.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

THE CULTIVATION OF WHEAT.

WHEAT must still rank as the most important of the cereal crops upon the home farm. Sometimes barley or even oats may realise almost as much money per acre, but wheat is considered as being the rent-paying crop. This matter is at the same time a question of soil, because some of the light and kind soils are in some respects better adapted for a rotation, which places the barley crop in a more favourable position than wheat. The cultivation of wheat affords a wide field for practical illustration, this cereal being grown successfully upon nearly every kind of soil where the climate is favourable; but the management of the land will require systems of cultivation as dissimilar as the soils. We therefore propose to refer to the tillage and rotation of the different soils separately, selecting first the heaviest strong clay land and the cultivation requisite for the successful growth of wheat thereon. Upon many heavy-land farms formerly very little live stock was kept, but since we have to contend with the whole world in the sale of wheat it is found best not to depend entirely upon the cereal crops. The old long fallow may be dispensed with, except in cases where the land is foul with couch or water grass; and when steam power is not available upon the home farm, and horse power only is used, the long fallow is a very expensive and tedious process. The rotation, however, upon which the land is cropped will have its effect in diminishing the horse labour if the old rotation is given up—viz., first, fallow;

second, wheat; third, oats or barley; fourth, clovers; and the following rotation substituted—first, autumn fallow seeded to green crops fed by sheep, and roots to be pulled; second, wheat seeded to clover; third, clover; fourth, oats or barley; fifth, beans and peas; sixth, wheat. Now in this six-course rotation, which we approve, each crop is a good preparation for the other; and there are various opportunities for cleaning the land between them, and also the capability of feeding sheep on green crops in the summer months, and furnishing at the same time a supply of mangolds, &c., for feeding purposes at the homestead. It will be noticed that by this system one-third of the land will produce wheat, one-third Lent corn and pulse, and the other third part clover, green crops, and roots in each year. This we consider the most valuable rotation, except upon some strong soils in certain districts of the kingdom upon which wheat and beans constitute the customary mode of cropping, but involving at the same time a liberal application either of yard dung or artificial manures to be successful.

Upon some strong clay lands, and especially those which have not been thoroughly tile-drained, a long fallow once in four years affords the only opportunity of rendering the soil capable of growing the usual crops; we will therefore describe the mode of making the winter and summer fallow in preparation for wheat. Immediately after harvest, whether the land is after clover or a pulse crop, it is sure to have a considerable amount of the water grass running over the surface, and even if the land is fairly clean the nature of it renders the fallow requisite. It should first of all be scarified with a Coleman's implement—that being the best for hard ground—both lengthwise and crossways, then harrowed, rolled, &c., and the grass and weeds carted away; the land should then be deeply ploughed, say not less than 6 or 7 inches in depth, and be properly water-furrowed so as to carry off all surface water during the winter. If steam power is available the same process may be observed both of scarifying and ploughing to lie during winter; but we cannot recommend that steam ploughing should be done deeper than the horse ploughing, because it brings to the surface a host of weed seeds which it will take years to eradicate, and which should have been allowed to lie dormant in the land. The deeper ploughing further necessitates either extra chalking or liming at heavy cost. Having laid the ground up for the winter in order to receive the alternation of rain and frost, so essential to the amelioration of those soils now under consideration, it will be necessary in the spring after the Lent corn sowing is over, to attend to the fallows by ploughing back the ridges. This will destroy one crop of weeds in their infancy; then, instead of working the land by harrowing, rolling, &c., we recommend (as we are now writing for the information of the novice) that the land after about a month should be cross-ploughed. The object of this is to bring it perfectly level when worked down, because in the cross-ploughing without previous dragging, &c., the land being rough and cloddy drives before the plough. If the work is done about a month after the cross-ploughing the land will have been thoroughly aerated, and will often have in favourable seasons killed the water grass, together with another crop of young weeds. The fallow as soon as worked down will now be producing young weeds again in abundance, and its subsequent working will depend upon the time of year. If August has come it will not be necessary to cross-plough again, but only scarify and harrow. The land should then be veered out according to the size of the lands required at seed time, and the dung spread or guano be sown between the veerings. The land may then be ridge-ploughed in the first week of September, and allowed to lie and become stale and mellow for the reception of the seed, which in the strong land should not be sown later than the first or second week in October; and as at that time of the year the land may be wet and heavy to work we advise the ridges to be made five turns or 8 feet wide, in order that the drill may take a ridge at once; the wheels and the horses drawing the drill will then go in the furrow only. The same with harrowing: the horses will keep in the furrows without treading the land, so important in heavy clays.

The quantity of seed we recommend is two bushels per acre at the early season; should, however, the seed time be delayed until the late period of November three bushels should be sown, because we have to consider the numerous enemies to the young plants, besides the possibility of some seeds perishing. In drilling wheat on this strong soil the width of the rows is important. They should be 12 inches, or only eight rows upon the ridge; no seed need then be sown in the furrows. This width of drilling is one of the principal features in the whole process of cultivation for wheat in heavy land, because such soils are usually infested with crowfoot and some other weeds; and further, after a very backward spring the wheat plant will often look yellow and sickly, in which case it is not only desirable to destroy the weeds but to move the land with the horse hoe, and thus give the plants more vigour, and enable them to show a deep green colour so essential to the crop. This can only be done effectually by wide drilling; it is the only safeguard to the crop. When drilled at 6 or 7 inches it may be hand-hoed, and this would kill some of the weeds, but the hand hoe will not move the surface enough to resuscitate

unhealthy wheat plants. When wheat is drilled upon these small ridges it is of great consequence that the land should lie rounding, with a gradual fall from the centre of the ridge to the furrow on each side; and to finish off the work after drilling it is best to strike the land furrows with the double mould plough, and after the water furrows are struck out with the common plough they should be carefully made out with the spade, taking care to have them from 2 to 3 inches deeper than the land furrows. This will clear the water out well from the land furrows. Still it will be necessary, particularly where the land is flat, to have the water furrows looked over and made out the second time, immediately after the first heavy rains which occur after drilling the wheat.

It is of consequence that the sort of wheat for seed should be chosen as best adapted to the soil. We do not approve of any sort of white wheat for heavy land, except where the climate is especially early and favourable, but prefer the best varieties of red wheat, such as Nursery, Golden Drop, Browick, and the Red Lammis. These all yield well on the strongest soils.

The foregoing remarks as to the use of horse power refer only to those home farms where only about a hundred acres or less are under cultivation, but on larger occupations we much prefer the use of steam power, not only on account of its better effect on the land, but so much may be done in a short time whilst the weather is favourable. It is highly desirable where the business is of sufficient size and importance to have locomotive steam power available, not only for tillage purposes, but also for thrashing, and a house for the steam engine should be attached to the buildings on the farm, so that in the winter months the engine will not only be protected and cared for, but will be set to work and give its power for the purposes of chaff-cutting, cutting roots, cracking cake, and grinding of corn. The engine house, being properly placed near the building where the above work is required to be done, should be so constructed that the floor should be grooved to receive the wheels upon a slight incline, and when in position to be blocked and made firm in its place ready for all usual work.

(To be continued.)

WORK ON THE HOME FARM.

Horse Labour.—This will now be required to prepare the land for the sowing of trifolium if not already finished, also for rye and winter tares. Should the weather continue favourable all speed should be made in autumn fallowing or cleaning of the land intended for next year's root crops, the last ploughing being left to be done after the wheat is all sown. Some ricks of wheat as well as of barley may now be thrashed by steam power, and the corn sold and delivered. The horses will require oats, so that a rick of these may well be thrashed and the corn stored in granary ready for daily use. Some farmers object to new oats for horses, but it is now so common to grow barley in admixture that the corn is good for feeding farm horses much earlier than when oats are grown alone. In some of the late districts the horses will still be employed in carting late crops, such as oats, spring beans, &c. The odd horse will be employed in horse-raking the stubbles, the proceeds being useful for feeding pigs, poultry, &c. Clover this season is giving in some cases a third cutting, which will be carted daily to the homestead, and as soon as the clover leas are cleared the young clovers in the stubbles are as flourishing this autumn as likely to afford a fair cutting, so that the feeding of cattle may be continued with advantage until the early frosts commence. Many farmers hesitate cutting the young seeds, but we find that the clover when cut comes better in the spring than it does after sheep-feeding, for these animals are apt to bite out the heart or centre buds of the plant, whereas when cut with the scythe the centre buds of the plant are left entire and uninjured.

THE AGRICULTURAL HALL POULTRY SHOW.

THINGS seem coming round to what we have long foreseen and predicted. A large number of poultry shows have fallen through or are about to do so, and those which are continued will be all the better for it and all the more appreciated. Their number, especially in or near the metropolis, had been multiplied beyond all reason and the demand for them. The only result of this was discouragement to committees, who found their schemes financial failures, and injury to birds, which were overshadowed. We are not, therefore, at all sorry to see that of the four metropolitan or quasi metropolitan shows two alone are to take place this year—viz., the Agricultural Hall and Crystal Palace Shows. The schedule of the former is before us. There is a particular point in the continuation of this Show, inasmuch as it is connected with the Dairy Show, and is consequently much helped by thousands of visitors who come principally to see the latter. It is an advantage, too, that those who are really interested in all connected with the dairy should have their attention invited to poultry.

The Show is to be held on October 10th, 11th, 12th, and 14th, thus including a Sunday—far too long a time for chickens, especially in a building, well adapted as it is to the purpose, probably much crowded and lighted daily during many hours by gas. We

have reason, however, to hope that this year precautions will be taken against the birds suffering from its noxious fumes. We are glad to see in the rules signs of the influence which is beginning to be brought to bear upon shows by a body of fanciers who have united to discourage all fraudulent practices. In rule 6 we read, "Any exhibitor detected in fraudulent practices shall forfeit all or any prizes or cups that he may have had awarded to him at the Show. No entry fee in such cases will be returned." And again rule 7, modelled on one of the Poultry Club rules, is good—"All protests against awards must be lodged with the Secretary within six hours after the termination of the judging, and must be accompanied by a deposit of £1. Such protests will be submitted to the Committee of the Poultry Show, who, after hearing the decision of the Judge or Judges thereupon, will decide as to whether such protest is frivolous or made without due ground, in which case the deposit will be forfeited." The only omission seems to be that it is nowhere stated who the said Committee of the Poultry Show are.

The classes for poultry are sixty in number with twenty-one cups; those for Pigeons fifty-seven with nineteen cups. To nearly all of them there are three prizes of £2, £1, and 10s. each. In a few of the poultry classes there are four prizes, the first in these cases being of the value of £3. Dorkings have five classes, Cochins four, Brahmas five, Game six, Ducks five (there being one for Pekins), Langshans four, with three cups and an "oriental prize." The cups in these classes are confined to members of the Langshan Club. We do not like this system, which makes it possible for the chief distinction to go to inferior specimens. Such clubs should confine their private competition to private exhibitions if they cannot afford to throw open their honours. In Pigeons Pouters have four classes; Carriers eight, one being a champion class; Dragons thirteen, one a champion class; Tumblers six; Jacobins three; Owls a champion class and four others; Turbits three, one of them for young birds; Antwerps three.

We wish all success to a Show got up on so magnificent a scale.—C.

THE JUDGES OF THE BATH SHOW.—In my account last week of the Bath Poultry Show I mentioned one Judge only—viz., Mr. Hodson, not being aware that there was a second Judge of the fowls. In the catalogue there was a hint as to another, and only a hint, for there was printed after Mr. Hodson's name, "Mr. ——" So as I imagine the services of another Judge had not been secured when the catalogue was in the printer's hands, and I did not chance to hear that Mr. Blank had become more than a blank. I have, however, had a letter from Mr. G. Saunders Sainsbury of Devizes, saying that he judged the Game, all the Hamburghs, Bantams, Ducks, Any other variety classes, and any other variety Selling classes. I must say that I am pleased to find that Mr. Sainsbury is again among the poultry. Many of the old readers of this Journal who remember not only the frequent occurrence of his name in the prize lists, but his articles on poultry, particularly on Black Ducks, would be glad to hear that not only was he acting as Judge, but was once more a breeder and exhibitor.—WILTSHIRE RECTOR.

THE STEWARTON HIVE.

"HIGHLY COMMENDED," and deserves more than "honourable mention." Some time last year I noticed this hive very prominently, and in doing so quoted from Mr. Hunter's book a long paragraph from the pen of the "RENFREWSHIRE BEE-KEEPER," wherein his mode of managing it is unfolded. Since then this hive has been frequently mentioned and commended in the pages of this Journal. Notwithstanding all that has been said in its favour during the last twenty-five years it is not well known by bee-keepers generally, and is seldom met with. Why it is not more widely spread and generally used I cannot say. It is a good hive and should be well known, and therefore I shall endeavour to give as plain and understandable a description of it as I can, with a view to point out its best and most commanding features.

But let me first say that the Stewarton hive of to-day is not what the Stewarton was ten years ago. Formerly this hive had a crown board with two narrow holes or slits in it for supering purposes. These narrow holes were about half an inch wide and 4 inches long, cut out of the crown board near its outer edges, away from the brood nest. This was said to be one of its distinguishing advantages—that is to say, the queen never found her way to the super through these side and narrow entrances. If the Stewarton hive was right then it is wrong now, for it has now no crown board at all, and the queen can go into the super as often as she pleases without hindrance. The narrow slit was of no advantage whatever. The removal of the crown board to give the bees free access to the super is a very great improvement to the Stewarton. The less complication the better.

The Stewarton hive is made for work and not for appearance. It is unlike all other kinds of hives, and does not possess one feature of beauty. As it comes from the carpenter's bench it is a strange and unseemly contrivance. Two boxes, octagonal in

shape, 6 inches deep and 15 inches wide, with two honey boxes 4 inches deep, all with crossbars, make a Stewarton hive. They resemble a lot of empty American cheese boxes or a bundle of riddle rims. The two 6-inch boxes are fastened together, and the open spaces between the bars of the top box are closed with slides which run in grooves. In this way the bars and slides make a roof which answers for a crown board. When the first super is put on the slides are shifted from the top of the hive to the top of the super, and thus a storey is added to the house, with free access from both first and second floors to the attic. If a second super is used the slides are again withdrawn and placed at the top of the second attic, and so the slides are moved upwards by stages from hive to super, and from super No. 1 to super No. 2. Some of the hives are enlarged from below by adding a third 6-inch box. When put together and well tenanted it is a good hive capable of doing much work. It is chiefly used for supering, and the principle of the Stewarton hive is in advance of all other kinds of hives for supering, and this is saying a great deal for the Stewarton. In making this statement I wish to be fairly and well understood. I do not mean that the Stewarton hive will yield more super honey than other kinds of hives of equal strength, but that the connection of super and Stewarton hive is more close and intimate, if the expression is allowable, than in any other kind of hive known in England. The separation between hive and super in the Stewarton hive is hardly felt by the bees, and therefore they are less likely to swarm than in other kinds. In all cases of supering the great difficulty is to prevent bees from swarming. In many instances bees swarm with empty supers on them, and often swarms issue from hives with supers on them half filled. Even in the Stewarton hive bees cannot be prevented from swarming. They set queens and go off to form colonies. Neither care nor contrivance can prevent swarming at all times. Of all known practised systems of supering the Stewarton hive offers the greatest inducements to the bees to remain at home. Young folk will marry and bees will swarm despite all that can be done to prevent them; hence in all kinds of hives kept for supering we have suggested that the queens have their wings clipped. If the queens cannot go with the swarms the bees will return to their hives shortly after they leave them.

In managing the Stewarton experience has led practical men not only to the removal of the crown board and the introduction of slides, but the adoption of the non-swarming principle. Formerly an empty hive was filled with two or three swarms and supered the first year. Now we believe stock hives are supered as soon as they are ready, and every effort made to prevent swarming. My object in writing these notes is to give the readers of the Journal as fair and accurate a knowledge of this hive as I can, and commend the principle of it in the highest possible terms; and I trust that my simple commendation will induce many bee-keepers who are seeking super honey to adopt the Stewarton principle in the management of their bees. The advocates of the Stewarton hive confine the bees in winter to one box, and in spring give room as the bees spread out in bulk and multiply in numbers. One, and sometimes two, breeding boxes are added in spring to the winter dwelling house. Probably a little experience will lead to a modification of this practice, for it is invariably found that empty spaces in hives are, during the spring months, far too much filled up with drone combs. This fact can never be wisely contradicted or contraverted. It is a stroke of good policy to get stock hives of all kinds well filled with combs in autumn, whether managed on the swarming or non-swarming principle. Another point in the management of this hive I must notice—viz., the practice of keeping stock boxes for two or more years. I suggest the desirability of having the combs in the stock boxes renewed every season, and I am sure that this suggestion will in process of time be universally approved. All kinds of hives that have filled supers are pretty well stored with honey and bee-bread or pollen. The super-abounding pollen would be a hindrance to the bees if kept, and the honey if taken and sold would realise at least £1 per hive, and one-fourth of this sum would provide sugar-syrup enough to fill empty boxes with beautiful new combs and store them with healthy food for winter. Hives of all kinds thus filled make the best of all stocks, full of health and ever ready for work.

In complimenting the principle of the Stewarton hive I leave the hive itself and its faulty features or points for future consideration, because I wish to avoid all matter of controversy in this article. The principle of the Stewarton can be adopted in supering with straw hives or bar-framers. I have repeatedly told the readers of this Journal that by placing one bar-frame hive over another (after removing their crown boards) the Stewarton principle could be carried out with great results. If I were to adopt the Stewarton principle of supering I would only alter the crown arrangements of my capital and convenient straw hives. Let it be well and fully understood that a change of hives would not secure success. The principle of shift and thrift and a good knowledge of management will do more for bee-keepers than a change of hives. While I heartily welcome every real improvement in apiculture, and hold out to view the highest models, I

have ventured now and again to warn the bee-keepers of England against the beguiling influence of trumped-up novelties. To run after such is the shortest road to get rid of cash and secure failures in bee-keeping.—A. PETTIGREW.

OUR LETTER BOX.

RABBITS IN FIELD (W. H. H.).—You do not say what kind of Rabbits yours are, or what precautions you take against wet, &c. We do not think that Angoras or breeds of that nature would ever do in an open field, especially, as appears from your letter, if the grass is allowed to grow, although some of the hardier breeds might. We should say in the first place that the death of your young Rabbits is caused by too much wet food. In addition to this the bucks if loose, as they apparently are from your letter, would probably kill the survivors. Take the Rabbits out of the field if you want them to do well, and feed them with good corn, not bran, or at any rate a mixture of the two, and lettuce, young corn, and parsley are all better than grass. You are not the first who has tried the experiment and failed.

A STEWARTON HIVE.—In reply to "E. S." "A RENFREWSHIRE BEE-KEEPER" states that "Had stripes of embossed wax sheet been inserted in the hive as intended, the combs would have been wrought perfectly straight and parallel."

SUPERED HIVE (Horace).—As the supers which you placed on your hive are not filled they should now be removed. The hive which is filled with combs will make a good stock for next year. Give it a few pounds of sugar syrup as rapidly as the bees will take it, cover the hive well, and expect returns next season.

MR. FOX'S HIVE (Amateur).—We are not able to answer your question. Write to Mr. Beran Fox, Southernhay, Exeter, and you will no doubt obtain the information you require.

SUGAR SYRUP (H. C. Ripley).—Mr. Pettigrew's recipe for feeding bees into stocks is good soft sugar at 3d. per lb., boiled in water at the rate of 1 lb. of sugar to one pint of water. The sugar he is now using is of a light cream colour, and makes excellent syrup, from which the bees (twenty swarms) are building combs rapidly. Syrup made in such proportions of sugar and water is as sweet as the syrup of flowers when first gathered, and has also much substance or body in it. It is simply a good imitation of Nature's production, and is improved both in taste and substance by boiling. Some bee-keepers use less water, and probably it is better to use rather less than more water, as some sugars are much weakened by the refining processes through which they pass.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat 51° 33' 40" N.; Long. 8° 0' W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.						Rain.
1878. Sept.	Baromet- ter at 22° Sea level.	Hygrome- ter.		Direction of Wind.	Temp. of Air at 1 foot.	Shade Tem- perature.		Radiation Temperature.		In- sun.	On grass	
		Dry.	Wet.			Max.	Min.	In sun.	On grass			
We. 11	30.277	deg.	deg.	N.	deg.	deg.	deg.	deg.	deg.	In.		
Th. 12	30.105	58.4	56.9	N.W.	60.0	72.2	47.3	104.1	43.6			
Fri. 13	30.135	58.0	57.0	N.W.	59.8	70.3	49.6	103.5	45.9	0.030		
Sat. 14	30.107	56.9	56.9	N.	58.5	67.3	44.8	112.4	42.7			
Sun. 15	30.047	55.3	51.8	W.	58.0	69.7	46.4	115.8	44.9			
Mo. 16	30.375	62.3	59.8	N.W.	58.5	68.5	53.8	114.6	49.8	0.130		
Tu. 17	30.758	57.7	52.1	E.	58.2	63.4	49.2	115.7	45.8			
Tu. 17	30.011	59.7	56.2	W.	57.0	67.5	50.2	91.6	45.9	0.205		
Means	30.173	58.3	54.2		58.6	68.4	48.8	108.2	45.5	0.365		

REMARKS.

- 11th.—Very foggy in the morning, but afterwards fine and bright, though slightly hazy.
 12th.—Hazy in morning, very cloudy and overcast between 11 A.M. and noon, and again about 1 P.M., when there was a heavy shower and squall of wind; afternoon clear and bright.
 13th.—A splendid morning, not a cloud in the sky, quite like spring; afternoon rather cloudy; evening misty.
 14th.—Fine day, but occasionally cloudy.
 15th.—Very windy day, squall of wind and rain at 9.48 P.M.
 16th.—First part of morning very fine, but it clouded over about 10 P.M.; afternoon and evening fine and bright.
 17th.—Dull and overcast day, slight shower at 11.30 A.M., drizzling in the latter part of the afternoon; fair evening.
 Barometric readings rather above those of last week, but all the thermometric values below those of last week; in fact the weather has been much cooler, although there have been several bright days.—G. J. SYMONS.

COVENT GARDEN MARKET.—SEPTEMBER 18.

THE supply of Grapes from the Channel Isles is now beginning to fall off, but we are having a good quantity of Dutch, which are being sold at low prices. Foreign Pears arriving only in small quantities; good samples of home-grown are in more demand. Trade still very dull.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	1	sieve	2	0 to 4	Melons.....	each	1	0 to 4	0
Apricots.....	dozen	0	0	0	Nectarines...	dozen	4	0	12
Cherries.....	1/2 lb	0	0	0	Oranges.....	100	3	0	16
Chestnuts.....	bu-shel	0	0	0	Peaches.....	dozen	4	0	12
Currants.....	1/2 sieve	0	0	0	Pears, kitchen..	dozen	0	0	0
Black.....	1/2 sieve	0	0	0	dessert.....	dozen	1	0	3
Figs.....	dozen	1	0	1	Pine Apples....	1/2 lb	3	0	6
Filberts.....	1/2 lb	0	8	1	Pines.....	1/2 sieve	2	6	5
Cob.....	1/2 lb	0	8	1	Raspberries....	1/2 lb	0	0	0
Gooseberries..	quart	0	0	0	Strawberries...	1/2 lb	0	0	0
Grapes, hothouse	1/2 lb	0	9	6	Walnuts.....	bushel	6	0	0
Lemons.....	100	6	0	18	ditto.....	100	0	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week	SEPT. 26—OCT. 2, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.			
26	TH		65.7	43.8	54.7	5 54	5 48	5 42	5 19					0	8 42			269
27	F		65.3	44.6	55.0	5 56	5 46	7 14	5 37					1	9 2			270
28	S	Rudbeck died, 1702.	65.1	44.0	54.5	5 57	5 44	8 47	5 57					2	9 22			271
29	SUN	15 SUNDAY AFTER TRINITY. ST. MICHAEL.	65.5	44.3	54.9	5 59	5 42	10 20	6 26	3				3	9 41			272
30	M		65.0	43.3	54.2	6 1	5 39	11 46	7 2	4				4	10 1			273
1	TU	ST. REMIGIUS. Cambridge Term begins.	63.4	44.7	54.1	6 2	5 37	1 1	7 52	5				5	10 20			274
2	W		64.4	43.9	54.1	6 4	5 35	15 9	8 56	6				6	10 39			275

From observations taken near London during forty-three years, the average day temperature of the week is 64.9°; and its night temperature 45.5°.

ROSE ELECTION.

DECLARATION OF THE POLL.

WYLD SAVAGE" now calls the election "a mockery, delusion, and snare." Why? Because it does not agree with his preconceived notions. Was it likely—nay, was it possible, or even probable—that the collected opinions of thirty or forty different persons, however good and sound they might be as to the merits of the varieties of a given flower, when those varieties are so numerous as in the case of the Rose, could agree as regards forty-eight of those varieties? It is simply impossible. Five and thirty out of the forty-eight might have been allowed by all, and so far there would have been unanimity; but the remaining baker's dozen would have sadly taxed the powers even of "WYLD SAVAGE" in obtaining anything like a unanimous opinion. But it is this variety of opinion that gives zest to all our pursuits. And why, I ask, may we not have these differences of opinion without the results being "a mockery, delusion, and a snare?" Supposing an amateur asking the advice of our friend, stating that he intended to begin Rose-growing with a view to exhibition: surely "WYLD SAVAGE" does not mean to say that if he ordered the first sixty varieties as they appeared in last year's election, ten plants of each, and if he brought to bear on these the best soil and climate and the greatest skill in cultivation that could be obtained, this amateur would have been wholly out of the race in the battles of the past season because the plants thus ordered were altogether wrong, they were the worst varieties instead of the best; they were, in fact, nothing more nor less than "a mockery, delusion, and snare," and that to stand any chance in exhibiting Roses he must begin afresh—select the Roses that never obtain mention amongst the sixty best of the election, and that by these means he is likely to obtain in future contests the "double firsts" that he covets?

I give our friend credit for knowing better than this. He knows well that the other way would not pay, and that it would turn out a greater "delusion" than the election. Indeed I scan down (I have just done it) the list of last year's election, and though I might shift the position of our favourites according to my fancy, yet the bulk of them are right. The position, I have explained before, is most easily shifted by an eccentric vote, but several votes of the same character will not drive a thoroughly good Rose out of the forty-eight or place a worthless variety within the charmed circle.

If "WYLD SAVAGE" really wishes to save the Rose election from being "a mockery, delusion, and snare," let him use his influence—not slight, I believe—in urging his brother enthusiasts in the trade and amongst amateurs to vote. Our friend is somewhat inconsistent; he poured the vials of his wrath on the election of 1876, which was the result of "household suffrage." Then we established a franchise, a very fair one I still think, and again he is not satisfied—he would have only those at the National, Alexandra, &c., who appeared as prizetakers; but it does not seem to occur

to him how faulty this may prove, for a man may devote himself say to forty varieties alone, and figure successfully at the National in the twelve or six varieties. This has occurred this very year, and the gentleman declined to give more than twenty-four votes.

In last year's election I ventured to give my idea on an exhibition Rose and its qualities, a valued discussion followed in these columns. I would like to start another subject in connection with exhibiting Roses: What is the best time to cut Roses for exhibition? And again, At what stage should it be cut from the plant to insure its growth in every way after the cutting? Few of us can have helped remarking that one Rose will grow, improve in size, colour, and exhibition qualities for twenty-four or thirty hours after cutting; whilst others, apparently cut under similar circumstances, do not improve at all. Why is this? The conditions of the parent and the atmosphere have, I fancy, some influence on the cut bloom, as well as the time at which the separation takes place and the conditions under which it is kept. I recollect a correspondent, I think it was Mr. Curtis, suggesting that the damp moss used for covering the stands had an injurious effect on the cut blooms and caused their colours to fade. This would be a reason for trying some other material, and the green velvet may, after all, prove the best; but if this be correct, distance is a severe handicapping which only those with very large numbers to cut from can meet successfully, and it would seem also to point to the conclusion that those coming from a distance should not moss their reserve box of blooms.

Whilst penning these thoughts a postcard from "A. C." threw out the suggestion as to what Roses were the most lasting and bore the brunt of travelling the best. Perhaps another year may induce many to give their opinions on this subject.

The electors are, as before, either frequent prizetakers in district shows or prizetakers at the National, Alexandra, or larger meetings. One list has not been used, no name being attached to it, but the list itself will appear. Whatever may be the opinion as to the merits of those voting in the forty-eight varieties, there can be no question that the electors voting in the seventy-two varieties are all growers and exhibitors whose opinions must carry weight. They are all well-known names, and this election must set at rest for a year or two at least the best varieties of our national flower.

Writing before the summing-up of the figures, I still venture to hazard the opinion that the seventy-two will not greatly differ from the general poll except in the position of the Roses, but that the first forty-eight Roses in each poll will nearly agree. I may here say that Mr. Cranston's list is used only in the seventy-two varieties, I having promised this; but I feel certain that all Rose-growers will feel grateful to him that, whilst disbelieving the value of these elections, he has yet given us the benefit of his opinion and yielded to the persuasion of friends to the election.

The columns run thus:—First, the number denoting the position of each Rose on the poll, determined thus:—first by number of votes altogether; these being equal, by greater number of votes in first twelve; if still equal by greater number of votes in the second twelve; if still equal they are

bracketed together. Then the second column gives the name of the Rose, followed by the letters indicating the character of the Rose. Then follow the date of its introduction and the raiser's name. Some blanks may still be found here, but the columns are gradually becoming complete. Then follow the amateur votes, A B C representing respectively the votes given in first and second twelve and the next twenty-four. Then the total of amateur votes. Then the votes of nurserymen. The total and the grand total.

Alongside of this general election of forty-eight varieties I have tabulated the results of the seventy-two varieties as suggested by Mr. Curtis. It is in this election we have Mr. Cranston's list, and besides him we have the following nine nurserymen:—Messrs. G. Paul & Son, Keynes & Co., Curtis,

John Durbin, Davison, Piper, Cant, Turner, and G. Prince. There can be, I imagine, no question as to the value of these opinions. The amateurs, four in number, are scarcely inferior, comprising the Revs. C. P. Peach, Pochin, and Bulmer; and "Hercules." This table requires a word of explanation. The first column denotes the position of the Rose in the seventy-two election, the next column the position of the same Rose in the forty-eight election, so that it is easy to see at a glance the varieties of opinion; then the name of the Rose; then follow four columns containing the first, second, third, and fourth-class votes, according as these are in the first or second twelve, the next twenty-four, or the second twenty-four; then the total votes. I hope this makes the table clear, which I now present to your readers.

FORTY-EIGHT VARIETIES.										SEVENTY-TWO VARIETIES.												
No.	Name of Rose.	Character.	Age.	Raiser's Name.	Amateurs.				Total.	Nurserymen.				Total.	Grand Total.	No.	No. in var.	VARIETIES.				Total.
					A	B	C	A		B	C	A	B					C	Name of Rose.	A	B	
1	Marie Baumann	H.P.	1863	Baumann	25	0	0	25	16	0	0	16	41	1	(1	Marie Baumann	14	0	0	0	14	
2	Charles Lefebvre	H.P.	1861	Lacharme	24	1	0	25	14	2	0	16	41	2	(7	Alfred Colomb	14	0	0	0	14	
3	La France	H.P.	1868	Guillot, fils	22	2	1	25	13	2	1	16	41	3	2	Charles Lefebvre	13	1	0	0	14	
4	Baronne de Rothschild	H.P.	1867	Pernet	21	4	0	25	13	1	2	16	41	4	8	Maréchal Niel	13	0	0	1	14	
5	Louis Van Houtte	H.P.	1869	Lacharme	14	6	4	24	10	3	3	16	40	5	(3	La France	12	1	1	0	14	
6	Etienne Levet	H.P.	1871	Levet	13	6	5	24	10	4	2	16	40	6	4	Baronne de Rothschild	12	1	1	0	14	
7	Alfred Colomb	H.P.	1865	Lacharme	23	0	0	23	14	2	0	16	39	7	6	Etienne Levet	11	2	0	1	14	
8	Maréchal Niel	N.	1864	{ Pradel E. Verdier	22	1	1	24	13	2	0	15	39	8	9	François Michelon	10	2	2	0	14	
9	François Michelon	H.P.	1871	Levet	12	9	2	23	12	3	1	16	39	9	5	Louis Van Houtte	7	4	3	0	14	
10	Marie Rady	H.P.	1865	Fontaine	12	7	4	23	3	6	7	16	39	10	12	Marquise de Castellane	6	4	4	0	14	
11	Madame Victor Verdier	H.P.	1868	E. Verdier	7	11	5	23	3	5	8	16	39	11	25	Horace Vernet	5	2	6	1	14	
12	Marquise de Castellane	H.P.	1869	Pernet	15	6	1	22	3	7	6	16	38			Ferdinand de Lesseps	2	1	2	2	7	
13	Eugénie Verdier	H.P.	1869	Guillot, fils	6	3	8		2	5	3	16	38	12	19	Exposition de Brie	2	1	0	0	14	
13	Marie Finger	H.P.	1873	Lacharme	1	3	1	22		2	4		38			Maurice Bernardin	0	0	4	0	4	
14	Dr. Andry	H.P.	1864	E. Verdier	5	13	6	24	1	5	8	14	38	13	10	Marie Rady	3	5	6	0	14	
15	Comtesse d'Oxford	H.P.	1869	Guillot, père	3	14	7	24	3	8	2	13	37	14	17	Sénéateur de Vaise	3	4	5	2	14	
16	Duke of Edinburgh	H.P.	1868	Paul & Son	2	8	11	21	3	5	7	15	36	15	11	Madame Victor Verdier	3	3	7	1	14	
17	Sénéateur Vaise	H.P.	1859	Guillot, père	3	8	11	22	3	4	6	13	35	16	13	Eugénie Verdier	2	3	3	1	14	
18	Dchss. de Vallombrosa	H.P.	1875	Schwartz (?)	4	3	14	21	2	5	7	14	35			Marie Finger	0	2	3	0	14	
19	Ferdinand de Lesseps	H.P.	1869	E. Verdier	2	2	8		2	4	5		35	17	14	Dr. Andry	1	7	5	1	14	
19	Exposition de Brie	H.P.	1865	Granger	1	1	3	20	1	0	1	15	35	18	22	Xavier Olibo	1	6	4	3	14	
20	Maurice Bernardin	H.P.	1861	Granger	0	0	3				2		35	19	18	Dchss. de Vallombrosa	1	3	10	0	14	
20	Capitaine Christy	H.P.	1873	Lacharme	3	5	13	21	1	4	9	14	35	20	16	Duke of Edinburgh	0	6	7	1	14	
21	Reynolds Hole	H.P.	1873	Paul & Son	4	4	12	20	4	5	4	13	33	21	23	Margt. de St. Amand	4	5	4	0	13	
22	Xavier Olibo	H.P.	1864	Lacharme	2	6	12	20	2	5	6	13	33	22	21	Reynolds Hole	2	5	4	2	13	
23	Margt. de St. Amand	H.P.	1864	Sansal	5	8	6	19	6	2	4	12	32	23	28	Catherine Mermet	1	6	4	2	13	
24	Mons. E. Y. Teas	H.P.	1875	E. Verdier	3	6	11	20	2	4	6	12	32	24	24	Mons. E. Y. Teas	1	4	7	1	13	
25	Horace Vernet	H.P.	1863	Guillot, fils	5	3	11	19	6	2	4	12	31	25	33	Comtesse de Serenye	1	4	5	3	13	
26	Camille Bernardin	H.P.	1865	Gantreau	2	10	5	17	0	5	7	12	29	26	30	Star of Waltham	0	2	7	4	13	
27	P. erre Notting	H.P.	1863	Portemer	3	2	11	16	1	1	10	12	28	27	40	Madame Lacharme	0	0	6	7	13	
28	Catherine Mermet	T.	1869	Guillot, fils	2	5	10	17	2	6	2	10	27	28	37	Souvenir d'Elise	3	3	5	1	12	
29	Duke of Wellington	H.P.	1864	Granger	1	7	12	20	0	3	4	7	27	29	38-39	Mons. Noman	1	5	4	2	12	
30	Star of Waltham	H.P.	1875	W. Paul	1	3	11	15	1	4	6	11	26	30	31	John Hopper	1	1	4	6	12	
31	John Hopper	H.P.	1862	Ward	1	5	12	18	0	2	6	8	26	31	46	Beauty of Waltham	0	1	5	6	12	
32	Emilie Hausburg	H.P.	1868	Leveque	2	9	6	17	3	1	4	8	25	32	15	Comtesse d'Oxford	3	5	2	1	11	
33	Comtesse de Serenye	H.P.	1875	Lacharme	1	4	8	13	4	4	4	12	25	33	43	Marie Van Houtte	2	3	3	3	11	
34	Dupuy Jamin	H.P.	1868	Jamin	1	9	5	15	0	3	7	10	25	34	44	Devoniensis	1	3	5	2	11	
35	Edouard Morren	H.P.	1869	Granger	1	7	9	17	0	3	3	6	23	35	45	Niphotos	1	2	4	4	11	
36	Fisher Holmes	H.P.	1865	E. Verdier	0	3	9	12	0	2	8	10	22	36	58	Camille Bernardin	1	2	8	0	11	
37	Souvenir d'Elise	T.	1855	Marest	1	5	6	12	4	3	2	9	21	36	26	Capitaine Christy	1	2	8	0	11	
38	Souvenir d'un Ami	T.	1846	Belot Defougère	2	4	6	12	0	3	5	8	20	37	20	Dupuy Jamin	0	6	3	2	11	
39	Monsieur Noman	H.P.	1866	Guillot, père	1	3	7	11	1	4	4	9	20	38	34	Fisher Holmes	0	2	7	2	11	
40	Madame Lacharme	H.P.	1872	Lacharme	0	2	9	11	0	3	6	9	20	39	36	Edouard Morren	0	2	5	4	11	
41	Prince Camille de Rohan	H.P.	1863	E. Verdier	1	2	10	13	0	1	5	6	19	40	35	Pierre Notting	0	0	6	5	11	
42	Victor Verdier	H.P.	1859	Lacharme	0	6	10	16	0	2	1	3	19	41	27	Emilie Hausburg	2	3	3	2	10	
43	Marie Van Houtte	T.	1871	Ducher	2	3	7	12	1	3	2	6	18	42	32	Souvenir d'un Ami	0	4	5	1	10	
44	Devoniensis	T.	1838	Foster	0	3	6	9		2	3	4	9	18	43	Victor Verdier	0	2	2	6	10	
45	Duchesse de Morny	H.P.			1	2	7	10	1	4	3	8	18	44	42	Elie Morel	0	0	6	4	10	
46	Beauty of Waltham	H.P.	1862	W. Paul	1	4	6	11	0	1	6	7	18	45	70	Abel Carrière	3	2	3	1	9	
47	Mlle. Thérèse Levet	H.P.	1866	Levet	2	0	11	13	0	0	3	3	16	46	51	Duke of Wellington	1	3	4	1	9	
48	Sir Garnet Wolseley	H.P.	1875	Cranston	0	1	7	8	0	3	5	8	16	46	51	Duchesse de Morny	0	2	4	3	9	
49	Hippolyte Jamin	H.P.	1874	Lacharme	1	2	7	10	0	2	3	5	15	47	29	Mrs. C. Wood	0	2	3	4	9	
50	Abel Grand	H.P.	1865	Damaizin	1	2	8	11	0	0	4	4	15	48	44	Hippolyte Jamin	0	2	1	6	9	
51	Abel Carrière	H.P.	1875	E. Verdier	0	2	4	6	3	1	4	8	14	48	45	Annie Wood	0	1	3	5	9	
52	Lord Macaulay	H.P.	1863	Ward	2	0	7	9	0	0	5	5	14	49	56	Marie Cointet	0	0	5	4	9	
53	Annie Wood	H.P.	1866	E. Verdier	1	0	10	11	0	1	2	3	14	50	49	Lord Macaulay	0	0	3	6	9	
54	Marie Cointet	H.P.	1872	Guillot, fils	0	5	4	9	0	0	5	5	14	51	53	Général Jacqueminot	0	0	2	7	9	
55	Duc de Rohan	H.P.	1861	Leveque	1	2	7	10	0	0	2	2	12	52	54	Abel Grand	0	2	3	3	8	
56	Mrs. C. Wood	H.P.	1861	E. Verdier	0	3	4	7	0	2	3	5	12	53	52	Jean Liabaud	0	2	2	4	8	
57	Mad. Hippolyte Jamin	H.P.	1871	Garçon	0	3	5	8	0	0	4	4	12	54	48	Sir Garnet Wolseley	0	1	5	2	8	
58	Niphotos	T.			1	0	3	4	1	1	5	7	11	55	60	Baron de Bonstetten	0	1	4	1	6	
59	Gloire de Dijon	T.	1853	Jacotot	1	5	5	11	0	0	0	0	11	56	60	Monsieur Boncenne	0	0	0	2	2	
60	Jean Liabaud	H.P.	1875	Liabaud	1	2	3	6	0	1	4	5	11	57	48	Le Havre	0	0	4	4	8	
61	Baron de Bonstetten	H.P.	1871	Liabaud	1	1	4	9	0	1	0	1	2	11	58	61	Princess Beatrice	0	0	2	6	8
62	Monsieur Boncenne	H.P.	1864	Liabaud	0	0	3	3	0	0	1	1	2	11	59	62	Madame H. Jamin	0	0	2	6	8
63	Le Havre	H.P.		Eude	0	2	7	9	0	0	2	2	11	59	62	Prince C. de Rohan	0	0	3	4	7	
64	Devienne Lamy	H.P.	1868	Leveque	1	1	3	5	0	2	3	5	10	60	63	Annie Laxton	0	0	2	5	7	
65	Marguerite Brassac	H.P.	1875	Brassac	2	1	2	5	0	0	4	4	9	61	57	Marguerite Brassac	1	0	3	2	6	
66	Annie Laxton	H.P.	1869	Laxton	0	1	6	7	1	0	1	2	9	62	41	Duke of Connaught	0	1	4	1	6	
67	Belle Lyonnaise	T.	1869	Levet	1	1	4	6	0	0	3	3	9	63	65	Marie L. Pernet	0	1	2	3	6	
68	Royal Standard	H.P.	1874	Turner	1	0	3	4	1	1	2	4	8	63	66	Sultan of Zanzibar	0	0	2	4	6	
69	Miss Hassard	H.P.	1875	Turner	0	1	3	4	0	1	3	4	8	64	64	Duchesse de Caylus	0	0	0	6	6	
70	Duke of Connaught	H.P.	1876	Paul & Son	0	0	1															

In the forty-eight varieties 183 Roses have been named by forty-one electors, and in the seventy-two varieties 182 Roses by fourteen electors. Untabulated in the forty-eight varieties three other Roses also muster seven votes—viz., Princess Beatrice, Général Jacqueminot, and the Lælia-Peyronny; eight obtain six votes; twelve are mentioned five times, and here probably are to be found a few Roses that will hereafter take a higher position—to wit, Madame Prosper Langier, La Rosière, and Mrs. Baker. Among the eight obtaining four votes Emily Laxton is found and Duc de Montpensier, one of these being a first-class vote. Nine Roses have but three votes, twenty-one are only named twice, whilst no fewer than fifty varieties have only a solitary vote. It may interest some to know how these fifty solitary votes are divided. These are probably the votes that greatly alter the position of the Roses by taking away a vote that would be given to some already in the list. Fourteen electors have named one, five have named two; three electors nominate three, one names four, and two electors have no less than six. As regards the seventy-two varieties beyond those tabulated nine other Roses were voted for five times, twelve obtained four votes, ten were named thrice, twenty-four could only muster two votes, and out of fourteen electors no less than fifty-six Roses had but a solitary vote. The two lists side by side will make comparisons between them easy; for instance, some of the Roses hold the same position in each list—Marie Baumann, Mons. E. Y. Teas, Marguerite Brassac. Others are widely different; take for example Horace Vernet, which rises from No. 25 in the general to No. 11 in the 72, Beauty of Waltham from 46 to 31, Elie Morel from 70 to 45, this last being the most marked. As instances of the opposite Prince Camille de Rohan sinks from 41 to 62, Duke of Wellington from 29 to 47, and Comtesse d'Oxford from 15 to 32. Yet with these exceptional cases, was I not right in hazarding the prophecy that the two lists would not greatly differ? They are the same with the exception of six Roses! Such a result does not, to my thinking, prove that the forty-one electors make up an opinion which in this case can be considered "a mockery, delusion, and snare." On the contrary, it plainly says that tried by two different tests we have for the present arrived at a fair solution of the best seventy-two varieties of exhibition Roses, and that any novice taking these seventy-two may hope that with the skill, science, soil, and climate necessary for success he may, selecting these, be moderately certain that his Roses, judged by exhibition standard will not disgrace him, at least in the selection; on the contrary, if beaten in the struggle he may rest assured that it will not be chiefly by Roses outside of the charmed circle.

Again I conclude the first portion of the election by warmly thanking the electors for their lists, without which the election would be null and void. I thank them for myself, but I thank them still more cordially for readers of "our Journal" who value the list and anxiously await its appearance. I also desire to thank many of the electors, to whom I am absolutely unknown, for the kind expressions of gratitude towards myself. I must again repeat that the correspondence connected with the election is great and occupies considerable time, and I therefore am unable to reply to these letters, but beg all my kind helpers to accept my thanks in this form. Of their kind opinion I am by no means ungrateful. Gratitude I have, time I lack.—JOSEPH HINTON, *Warminster*.

P.S.—Perhaps this portion is scarcely complete without the names of the voters. They are as follows:—Amateurs: Miss Penrice; Revs. C. P. Peach, J. B. M. Camm, Bulmer, Pochin, Cheales, and Tomlinson; Messrs. W. Palfrey, Mayo, Beachey, R. G. Baker, J. Smith, E. R. Whitwell, T. B. Haywood, John Taylor, J. Graveley, James Brown, J. L. Curtis, Soames, G. Baker, A. J. Waterlow, Robert Craig, gardener to General the Hon. A. Upsten; Capt. Christy, Hand, and Hinton. Nurserymen: Messrs. Balchin, Cant, Curtis, Dickson, Davison, Durbin, Frettingham, Keynes & Co., H. Merryweather, H. May, Mitchell, G. Paul & Son, G. Prince, Piper, Rumsey, and Turner.—J. H.

PANSIES.—Vick's "Illustrated Magazine" contains the following sensible remarks on Pansies:—"Many persons seem to forget that Pansies are imperfect perennials, and expect them to go on blooming year after year like a *Pæony* or a blue *Flag*. It is true they will live for several years, but they will not give large fine blossoms after the plants become old. The seed must be from selected plants and kept pure, or the flowers soon 'run out,' as the common saying is—that is, they become small and common-looking. So whatever else you save your-

self or get from your neighbours never trust any *Pansy* seed but that from a reliable florist. But everything does not depend upon the seed, for it is possible to grow very poor flowers from the best seed by bad treatment; but the best treatment will not produce fine flowers from poor seed."

NOTES ON FRUIT—ROOT-PRUNING AT ASHWELL RECTORY.

YOU published last year a few observations of mine on the culture of Peaches and Nectarines in orchard houses. I spoke then of the very great importance of preventing, or failing that, of stopping as soon as possible the ravages of insects, and also by means of cheap lamp stoves of providing just enough heat during the blossoming period to exclude the frost. It would be superfluous for me to expatiate now upon the necessity of ripened wood for insuring next year's crop, but I may mention that it is my practice to shorten shoots as much as is consistent with prudence as soon as the fruit is gathered, so as to admit as much air and light as possible upon what will be fruit-bearing wood next year.

With regard to root-pruning, it may be interesting to some of your readers for me to state that last November, in order to check a too luxuriant growth, I determined to replant in fresh soil all my cordon trees along a wall about 130 feet in length. Some of these trees were triple, some double, and some single cordons, of which I prefer the last. It seemed not only an herculean toil but a rather hazardous experiment to dig up trees some of which were nearly twenty years of age, but as these "old uns" had gross shoots I made up my mind, whether kill or cure, it should be done. I began by excavating a trench at one end of the border, undermining and carefully lifting each tree in turn, cutting-in its roots, and then immediately transplanting it in some fresh soil—the top spit of a meadow. And here I may remark, that with the trees planted in the border I alternate cordon trees in large pots; and this I find to be a good plan, as giving freer scope to the roots. The result has been most satisfactory. I had some misgivings I must confess. I made up my mind for a short crop the next year, but I expected that in the long run this heroic treatment would yield good results. It turns out, however, that my fears were perfectly groundless. My trees were full of blossom, nearly every blossom set (requiring some trouble in thinning), and fewer fruits than usual fell during the summer immaturity. In fact, I have had a magnificent crop, not only amply providing for my own table, but also affording me the pleasurable opportunity of making acceptable presents of fruit to my friends and neighbours. Dr. Johnson is said to have asked whether anybody ever yet had as much wall fruit as he desired. A lady who happened to be a guest of mine at the end of June told me that she had never had a sufficiency before, but that in my house she had enough and to spare. She came in for the enjoyment of that most excellent Peach the Early Louise, which I can strongly recommend. It is a clingstone, and so does not fall when ripe as so many of the early varieties do, and its flavour is exquisite.

During a pleasant ramble in my short holidays I have had opportunities of comparing notes with brother amateurs, and, considering that the present was said to be a bad season I was surprised at the abundance I witnessed. In the garden of Borden Vicarage I saw wonderful produce of Apples, Pears, and Plums; but alas! the fine Peach trees with a too plentiful crop upon them were ruined by the attacks of red spider. This part of Kent may well be called the garden of England. My next visit was to Horsham in Sussex, and there, both in the orchard house at the vicarage and in the extensive Peach houses of S. Lucas, Esq. (well worthy of a visit), I saw splendid specimens of fruit, such as bore testimony not only to the richness of the soil, but also to the care and skill of the gardeners in charge. I remarked some particularly fine Peaches on the Dymont Peach, also some grand Nectarines on the Victoria, which I am surprised to find is not included in the list of Nectarines recommended by "A KITCHEN GARDENER" in your issue of the 12th inst. I can also speak in laudatory terms of the samples of Peaches I saw and tasted in the orchard house of the vicar of Croydon, Surrey, who trains the branches of one or two trees beneath the glass of his house with remunerative results. His Grapes, his Plums, his Strawberry plants, his Roses, his Gladioli, in fact all that he takes pains to cultivate, have before this been deservedly commended in your Journal in a letter from "D., Deal." Of outdoor Peaches and Nectarines those that pleased me most were those

I saw on the wall of John Fletcher, Esq., of Sunbury, and all the trees in his garden reminded me of "Hesperian fables, true, if true here only," and I felt some perplexity as to whether the palm should be adjudged to the soil of Borden or of Sunbury as more eligible for fruit trees. I must not omit to mention the very fine crops of Peaches and Nectarines both under glass and on the open wall at Heywood near Maidenhead, the seat of Beaumont Hankey, Esq., whose gardener, like Oliver's in "As You Like It," is one of the antique world, who sweat for duty, not for meed. The old school is after all a very good school, whether of wines or gardeners, not only as regards satisfactory results, but also of devotion to their employers' interests.—H. W. HODGSON.

CLIMBING ROSES FOR CONSERVATORY.

A READER, "*VERAX, Manchester*," requests information as to the best six climbing Roses for covering a conservatory roof, the varieties to be of varied colours, and sorts that will produce large quantities of flowers for sale.

This I consider a question of considerable importance, not only to market flower growers but flower growers generally. In the first place there is no style in which Roses can be grown to be seen to greater advantage than when climbing up walls, pillars, and roofs; and secondly, they produce far more blooms when so grown than by any other mode of culture. A number of good climbing Roses constitute one of the greatest treasures any person who grows flowers can possess, and for all kinds of decoration no flowers are more valuable.

"*VERAX*" intends planting *Maréchal Niel* and *Gloire de Dijon*, as two of the six which are wanted. No better could be selected, and of the two I give preference to the *Gloire*. It must be admitted it will not bear the slightest comparison with *Maréchal Niel* when this Rose is in full bloom, but for producing an all-the-year-round supply of fine fragrant blooms I consider the *Gloire* unsurpassed. With private growers two of the *Gloire* should be planted for every one of the *Maréchal*, but for market purposes I think this arrangement might be slightly altered. As a rule Rose blooms will only pay in the market from November until May as grown under glass, and there is no time they pay better than during February, March, and April. This is just the time when *Maréchal Niel* can be had in profusion and in its unequalled beauty. A valuable quality possessed by this grand Rose is that it will grow and bloom freely and fine on the back wall of a lean-to house, even when shaded by Vines or Peaches. In this way it might be grown with much more profit than it often is, as there are many empty walls about both market and other gardens which might be filled with it. *Gloire de Dijon* does not succeed so well on a partially shaded back wall, and it is always more liable to become infested with green fly than any other Rose which we have grown.

In addition to the two named I would advise "*VERAX*" to plant *Cheshunt Hybrid* (cherry carmine), *Niphetos* (beautiful white), *Belle Lyonnaise* (deep canary yellow tinted with salmon), *Céline Forestier* (very fragrant, fine bright yellow), and if a Rose is wanted to produce exquisite buds *Madame Falcot*, which is a very deep yellow or kind of bronze, and a continuous and exceedingly free bloomer.

In the culture of these Roses it is not advisable to restrict them in growth too much; in fact to do them justice and allow them to produce large quantities of bloom, closely training them to rafters in a conservatory is not the surest way of securing the best results, and the Roses should not be made a secondary consideration to the plants that may be underneath them. No other flowers will pay either public or private growers better than Roses, and whatever else may be neglected they should have the treatment they require. In training them they need much more room to extend their branches. They will flower fairly well when tied to pillars or rafters for decorating the house in which they are growing, but to secure thousands of blooms for sale the best way is to cover the roof with a light wire trelliswork, the same as is done for Vines, and train the shoots of the Roses all over it. Many kinds of plants, such as Ferns, Camellias, and newly potted plants generally, will grow very well under this trellis, for Roses do not shade so much as Vines. Whichever way the Roses are trained the shoots must not be crowded, at the same time no more pruning should be done to those I have named than will just prevent them from doing this. Cutting out a few of the weak shoots and any strong old branch about this time of the year is all the pruning ours receive. Plenty of rich material

is requisite for them to grow in, and a free extension of the branches just suits *Maréchal Niel*: indeed this applies to all climbing Roses with which I am acquainted. Strong loam well enriched with cow dung, and plenty of good liquid manure when growing and flowering, suit them admirably. Plants in pots may be planted now or at any other time during the year; others had better be left until they are at rest before they are dug up and replanted.—M. M.

AMERICAN MOTHER APPLE.

HAVING seen the above Apple recommended I purchased trees of it, and am now disappointed with their produce. The fruit is small, yellow, and by no means good. Can I have the true variety? I send you a specimen.—L. L. D., *Oxon*.

[You have not the true variety. Twenty years ago we described the American Mother as one of the best of autumn Apples. It originated at Bolton, Massachusetts, and was introduced to this country by Mr. Rivers of Sawbridgeworth. We then advised that care must be taken not to confound this variety with those that bear the same name in this country.]

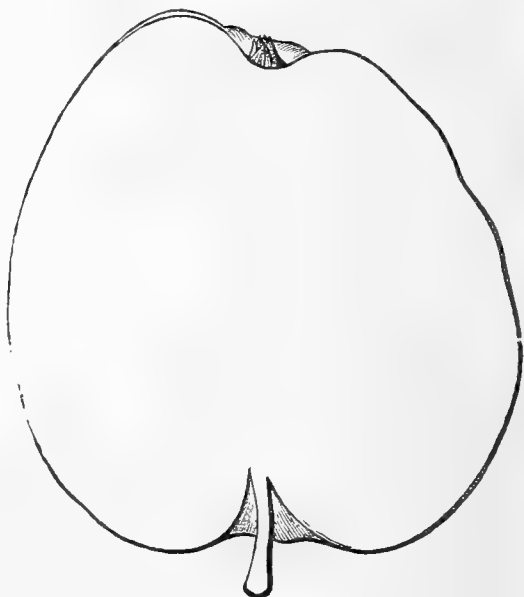


Fig. 37.—American Mother Apple.

There is a "Mother Apple" grown in some of our cider districts, a little ovate yellow fruit, having the unpalatable flavour of a Bittersweet; and then there is the *Oslin*, which in some parts of Scotland is called "Mother Apple." Both of these are perfectly distinct from that which is now under consideration, and which was therefore called the "American" Mother Apple.

Fruit above medium size, conical, uneven, and undulating on its surface, and generally higher on one side of the crown than the other. Skin golden yellow, covered with patches and streaks of crimson on the side next the sun, and strewn with russet dots. Eye small, closed and tapering, set in an open basin. Stalk half an inch long, very slender, inserted in a deep cavity. Flesh yellowish white, remarkably tender, crisp, and breaking, very juicy, sweet, and with a balsamic aroma.

The outline and description will enable the true variety to be recognised.]

POTATO DISEASE AND ITS PREVENTION.

THE following suggestions for checking the Potato disease have been addressed by Mr. G. H. With, F.R.A.S., to the tenants of the Hereford Society for Aiding the Industrious:—

The yearly destruction of our Potato crop, and the great loss of food which follows, render it absolutely necessary that some plan for checking and, if possible, rooting out the disease, should be tried without delay. After giving a good deal of attention to the subject I offer these suggestions, with the full belief that, if they are carefully followed, results will be

obtained which will far more than repay the trouble. The Potato disease is owing to the destructive action of two kinds of mildew, and it starts afresh every year from seeds, or spores as they are called, which have rested during the previous autumn and winter either in the ground, or in the Potato tubers, or in the manure heap.

1, Burn the haulm and all waste Potatoes, parings, &c., not intended for the animals as soon as possible after the crop has been raised. Unless this is done the decaying haulm and waste Potatoes may fill the ground with the seeds of the destroying mildews.

2, Do not throw the haulm and waste Potatoes upon the manure heap, because the mildew seeds will gain in strength by resting in the manure, and this manure will help to spread the Potato disease next season.

3, Boil for a long time all diseased and even apparently sound Potatoes before you feed animals with them. It is highly probable that the seeds of the Potato mildews gain strength by passing through the stomach of an animal—the pig, for instance. The manure of animals fed on raw diseased Potatoes and Potato parings may, for the above reason, become a powerful means of spreading the Potato disease.

4, Do not grow Potatoes on the same piece of land two years in succession. Any mildew seeds which may rest in the ground from the last year's Potato crop will begin to grow about the beginning or middle of May; but they will quickly perish if they cannot find Potato plants at hand to nurse them.

5, Be sure the seed Potatoes are quite free from disease when planted. A Potato does not always show the disease on the outside; therefore it will be necessary to cut the sets, in order that the condition of each one may be seen. A few diseased plants will serve to infect acres of Potatoes in a wet warm season.

6, Use chemical manures in preference to any others for the Potato crop. Ordinary manures may, especially if brought from a distance, contain the mildew seeds.

7, A Potato crop may generally be saved by pulling up the haulm throughout the whole crop as completely as possible directly the disease spots appear on the leaves of any one of the plants. Of course the tubers will not grow any larger after the leaves and stalks have been removed. They will, however, ripen in the ground, more or less according to the season, and though they may not be very large they will be fit for food.

8, To ensure success all the Potato growers of a neighbourhood should follow the above plan. One plot of diseased Potatoes may furnish seeds enough in July to destroy the surrounding Potato crops.

CRYSTAL PALACE—FRUIT AND POTATO SHOWS.

SEPTEMBER 24TH AND 25TH.

ONLY a very large building such as the Crystal Palace could have accommodated at the same time two such Shows as those under notice—the twenty-third annual Exhibition of fruit promoted by the Crystal Palace Company, and the fourth International Potato Exhibition instituted by a committee of gentlemen earnest in improving the Potato both as to culture and varieties. The first-named Show was under the management of Mr. Thomson, the Crystal Palace Company's skilled garden manager; and the Potato Exhibition was arranged under the experienced superintendence of Mr. J. A. McKenzie.

THE FRUIT AND VEGETABLE SHOW.

Fruit was exhibited on a larger scale than usual at the Palace. Pines were not numerous, and as a rule were not quite equal to those exhibited during some former years, yet most of those that obtained the prizes were very good. Grapes were staged in great numbers, and many of them were remarkably fine, notably the Muscats, Gros Colman, and three bunches of Golden Queen. For these the Show will be remembered. It will also be remembered as the occasion of a bold precedent, inasmuch as by far the best collection of Grapes exhibited was disqualified because Muscat of Alexandria and Bowood Muscat were staged as distinct kinds. The Judges—Messrs. Barron, Douglas, and Baker—officially declared them identical, and hence the exhibitors (Messrs. Lane and Son, Great Berkhamstead) were placed out of competition; but their collection was highly commended for its great excellence. Mr. Tyler, gardener to R. Gosling, Esq., Haslebury, was also disqualified in the class for five distinct kinds for the same reason as Messrs. Lane, otherwise he would probably have secured the premier position. This collection, too, was highly commended. Apples and Pears were excellent; Peaches fine, but not highly coloured; Nectarines few, Plums small, Melons numerous, and vegetables splendid. Referring to the classes, first in order come the

two dishes of Grapes, two Pine Apples, and two Melons were admissible, but not more than one dish of any other variety. Four collections were staged, Mr. Coleman, gardener to Earl Somers, Eastnor Castle, securing first honours with a very fine collection, including a good Queen and fine Smooth Cayenne Pine but too heavily crowned; fine Muscat and good Black Hamburg Grapes; two capital Melons, Eastnor Castle and Read's Scarlet-flesh; good Barrington Peaches, Pine Apple Nectarines, Williams' Bon Chrétien Pears, Morello Cherries, Brown Turkey Figs, and rather small Golden Drop Plums. Mr. G. Sage, gardener to Earl Brownlow, Ashridge, was an excellent second, his Queen Pine being especially fine, Black Hamburg Grapes remarkably well finished, and other fruits good. Mr. Goodacre, The Gardens, Elvaston Castle, had the third place; his Muscat Grapes were full and well finished, and Lady Downe's were excellent. The collection also included a dish of Garibaldi Strawberries.

In the class for six dishes of fruit, distinct kinds, Pines excluded, there were sixteen competitors, but five of them were disqualified for having staged two varieties of Grapes. Mr. Haycock, gardener to R. Leigh, Esq., Barham Court, Maidstone, had the premier award. He staged admirably finished Black Alicante Grapes, a magnificent Golden Gem Melon, splendid Louise Bonne of Jersey Pears, a good dish of Lord Palmerston Peach, highly coloured Pine Apple Nectarines, and Golden Drop Plums. Mr. C. J. Goldsmith, gardener to H. T. Lambert, Esq., Sandhills, Bletchingley, secured the second prize with a remarkably good collection. Mr. H. Folkes, gardener to T. F. Halsey, Esq., Gaddesden Park, Hemel Hempstead, was placed third for highly creditable produce. Some inferior collections were exhibited in this class, but the majority were very good, and it was not easy to make the awards. The decisions, however, were unquestionably correct.

The next class of six dishes, distinct kinds, exclusive of Pines and Grapes, also gave the Judges much trouble. Ten collections were staged, but some exhibitors were disqualified for placing more than the stipulated number of fruits in a dish. The prizes were awarded first to Mr. Haycock, second to Mr. Chisholm, gardener to R. C. Taylor, Esq., Boughton Place, Maidstone, and third to Mr. Wildsmith, gardener to Viscount Eversley, Heckfield. All the collections were very good, Mr. Haycock's consisting of a Melon, Brockworth Park Pears, Lord Palmerston Peaches, Pine Apple Nectarines, Kerry Pippin Apples, and Pond's Seedling Plums, all splendid. Mr. Ross, gardener to C. Eyre, Esq., Welford Park, Newbury, would have had the second prize in this class had he exhibited in conformity with the conditions at the head of the schedule, where it is stated that a dish of Figs must consist of six fruits.

GRAPES.—In the class for ten kinds, two bunches of each, there were five competitors. Messrs. Lane & Sons having been disqualified for the reason above stated, first honours fell to Mr. Wildsmith. His Black Hamburgs were small, but all the rest good—namely, Mrs. Pince (quite ripe), Buckland Sweetwater, Alicante, Gros Guillaume, Trebbiano, Gros Colman (well coloured), Venn's Muscat (full and good), Muscat of Alexandria, and Lady Downe's, the bunches ranging from 2 to 3 lbs. Mr. Bannerman, gardener to Lord Bagot, Rugeley, was a rather close second; and Mr. Goodacre third with small but well-ripened bunches. Messrs. Peed & Son exhibited in this class, staging Tottenham Muscat and Muscat of Alexandria, which being ruled identical the collection was ineligible for a prize.

Six collections were staged in the class for two bunches each of five kinds. Mr. Tyler having been disqualified for including the two Muscats referred to, first honours fell to Mr. Sage, Ashridge, who staged excellent Muscats, Lady Downe's not quite ripe, splendidly coloured Alicantes, Trebbianos, and Black Hamburgs. Mr. Woodbridge, The Gardens, Syon House, was placed second with Madresfield Court, full and compact; good Muscats, a cluster of Alicantes, Golden Champion, small bunch, fine berries, and clear; and good Lady Downe's. Mr. Mowbray, gardener to the Earl of Leven and Melville, Fulmer Gardens, Slough, secured third honours with a smart and clean collection—Muscats full and regular; Lady Downe's, not quite ripe; Alicante, good; Black Hamburg, excellent; and capital examples of Royal Muscadine.

In the class for three bunches of Black Hamburgs sixteen lots were staged. Most of the bunches were small or medium-sized, some not well coloured, and none of superior merit as combining good size with high quality. Mr. Wildsmith was fortunate in securing first honours with bunches not exceeding three-quarters of a pound in weight, but the berries were well finished and of undeniably good quality. Mr. Upjohn, gardener to the Earl of Ellesmere, Worsley Hall, Manchester, was placed second with bunches weighing 2 lbs.; berries, too, of good quality, but one or two of them were small and slightly-rubbed. If Mr. Upjohn had taken out about three small berries he would have won "a canter," as it was he must have felt it hard to have lost. Mr. Goldsmith was third with good-sized bunches, full and regular, but berries rather small. Only a moderate class.

Very different was the class for three bunches of Muscat of Alexandria, in which there were thirteen competitors. Messrs. Lane and Son won the chief position with bunches grand in all points, one of them a veritable model in shape, also in size, regularity

COLLECTIONS OF FRUIT.—In the collection of twelve dishes

and finish of berries. The bunches were about 15 inches long and weighed from 3 to 4 lbs. Mr. Coleman was placed second also with splendid bunches, large, full, clear, and fine, but not perfectly ripe. Mr. Bannister, gardener to H. St. V. Amer, Esq., Cote House, Westbury-on-Trym, Bristol, secured third honours with excellent bunches of about 3 lbs. An extra prize was awarded to Mr. Jarman, gardener, Westwood Lodge, Isle of Thanet, for bunches full, heavy, and altogether fine. A remarkably fine class.

Nine collections were staged in the Madresfield Court class, Mr. Woodbridge securing the first position with medium-sized well-shaped bunches and fine berries, but not fully ripe. Mr. Ward, gardener to T. N. Miller, Esq., Bishop Stortford, had the second place with smaller bunches but better-coloured berries, and Mr. Upjohn was third with handsome bunches, but berries not quite ripe. The three collections were of nearly equal merit, but the rest were far behind. Only a moderately good class.

Gros Colman, of which four collections were staged, was splendid. Mr. Coleman won first honours with moderate-sized bunches, and berries which for size and high finish we have never seen equalled. Messrs. Lane & Son were second with much larger bunches and fine and well-coloured berries—excellent; and Mr. Upjohn was third, also with capital examples of culture. A small but imposing and superior class.

Sixteen competitors entered the arena in the Lady Downe's class. Some of the fruit was not half ripe, some was rubbed, other bunches excellent. Mr. Coleman was first with small bunches, but so smart, clean, and fine in berry that the Judges could not justly have placed them in a different position. Mr. Jordan, gardener to Birket Foster, Esq., The Hill, Witley, Godalming, had the second place with very fine bunches and highly creditable in all points; Mr. Bannerman was a very close third. A very good class.

Buckland Sweetwater was represented by bunches of almost all sorts, from very good down to very bad. Mr. Bungay, gardener to W. Smith, Esq., Hill House, Herne Hill, secured the first position with large but rather loose bunches, but good berries, clear and ripe. Mr. Grough, gardener to E. M. Barrington, Esq., Little Malvern Court, Worcestershire, was placed second with smaller bunches, but berries of capital quality; and Mr. Masters, gardener to F. Day, Esq., Oatlands Park, Weybridge, third with bunches still smaller, but the most perfectly ripened and best-finished berries in the whole class.

The class for any other white Grape than those above mentioned brought out eight competitors. Mr. Atkins, Lockinge Gardens, Wantage, easily won first honours with splendid examples of Golden Queen, the best probably ever exhibited. They averaged about 3 lbs. in weight, were handsome in shape, and the berries were very regular and fine, also fairly clear in colour. Mr. Jordan was second with large and full bunches of Foster's Seedling, but berries rather small; and Mr. Jones, gardener to Lord Calthorpe, Elvetham Park, Winchfield, third with the same variety in excellent condition.

In the corresponding class for any other black kind sixteen growers competed for the prizes. The majority of the exhibits were Alicantes, and this variety was staged in splendid condition by Messrs. Lane & Sons, who secured the chief honours. Mr. Perks, gardener to C. W. Dieseldorf, Esq., Laurie Park Gardens, Sydenham, was second with Gros Guillaume of first-rate quality; and Mr. Goodacre third with Alicante. In this class Mr. Bell, Clive House, Alnwick, exhibited Alnwick Seedling, fine in bunch, berry, and colour, but not nearly ripe; indeed, it was almost sour, and hence it was passed by the Judges. A very good class indeed.

The last class in the schedule was for the heaviest bunch, white or black, and here Mr. Kirk, gardener to Mrs. McKie, Castle Douglas, Kirkcubrightshire, was a long way ahead of his rivals with a bunch of Trebbiano weighing 16 lbs., the berries being remarkably fine, clear, and very regular. It was a fair bunch on a simple peduncle, and a fine example of culture. Mr. C. Tyler, Hassobury, was a good second with Gros Guillaume, weighing 9 lbs. 2 ozs. A fine-shaped bunch, and most of the berries good and well coloured. Mr. Bones, gardener to D. McIntosh, Esq., Havering Park, Romford, had the third position with Black Hamburgh, weighing 7 lbs. 2 ozs., the berries being very fine, but not well coloured. It may be remarked that the winner of the first prize in this class exhibited a collection of five kinds, which at the first glance appeared much the best in the class, but on closer inspection it was clear that they were stale and worn, and decay had set in in the interior of the bunches; hence they were properly passed by the Judges. The notable bunch was a fine example of Duke of Buccleuch. Mr. Kirk has taken good prizes in Scotland this year, and it redounds much to his credit as a cultivator that all the Grapes he has exhibited have been grown in a house 30 feet long.

The show of Grapes was probably the most extensive that has ever been held at the Crystal Palace, the result, no doubt, in a great measure of Mr. Thomson's energy, tact, and courtesy. The Exhibition was enhanced in effect by several excellent examples of Vines in pots from the nurseries of Messrs. Lane & Sons, which were placed at intervals along the central table instead of, as is often the case, being huddled together at one end of a show.

PINES.—The show of these was not extensive. Some of the fruits were fine, but several of them had disproportionately large crowns. In the class for one Pine Apple, Queen, there were only four exhibitors. The first prize was awarded to Mr. Sage, Ashridge Gardens, Berkhamstead. Mr. W. Coleman, Eastnor Castle, was placed second; and Mr. J. Akehurst, gardener to S. Copestake, Esq., Highgate Road, third, all exhibiting very clean and evenly-grown fruit. For one fruit of Smooth Cayenne Mr. Charles Ross, gardener to C. Eyre, Esq., Welford Park, Newbury, was placed first; Mr. W. G. Pragnell, gardener to G. D. W. Digby, Esq., Sherborne Castle, Dorset, second; and Mr. D. Wilson, gardener to Earl Fortescue, Castle Hill, North Devon, third, with very large and handsome fruit. In the class for one Pine Apple, any other kind, there were only three exhibitors, and the prizes were awarded to Mr. G. T. Miles, gardener to Lord Carington, Wycombe Abbey, Bucks; Mr. J. Akehurst, and Mr. J. Muir, gardener to C. R. M. Talbot, Esq., M.F., Taibach, South Wales, in the order named. The fruit exhibited by Mr. Miles was a very handsome Charlotte Rothschild Pine weighing 7 lbs. The others were smaller, Mr. Muir staging Prince Albert.

PEACHES AND NECTARINES.—Thirty-five collections were staged in the class for a dish of Peaches, six fruits of each, Mr. J. Coombs, Sheen House, Mortlake, Surrey, winning first honours with very large, highly-coloured fruit of Lord Palmerston. Mr. J. Smith, Wotton Gardens, near Aylesbury, Bucks, was placed second with Late Admirable; and Mr. W. Coleman, Eastnor Castle, Ledbury, third with Barrington. An extra prize was awarded to Mr. C. J. Goldsmith, gardener to H. Lawley, Esq., Sandhills, Bletchingley, Surrey, for very large fruit of Princess of Wales, but somewhat damaged in transit. Peaches as a rule were large, but somewhat deficient in colour. Nectarines were not so numerous exhibited, there only being about a dozen dishes. The best was Pine Apple from Mr. Coleman; the second prize was awarded to Mr. J. Neighbour, gardener to G. Wythes, Esq., Bickley Park, Kent, for the same variety; and the third to Mr. G. Wortley, gardener to Admiral Hon. P. Cary, South Norwood Hill, for Prince of Wales.

MELONS.—Sixty-four Melons were staged, amongst which there were some very fine fruit for the season, but they were not remarkable for high flavour. Mr. Haycock was awarded the first prize, Mr. Charles Osman, gardener, South Metropolitan District Schools, Sutton, the second, and Mr. Charles Tyler, gardener to R. Gosling, Esq., Hassobury, Bishop Stortford, the third for green-flesh; and for scarlet-flesh the prizes fell to Mr. Joseph Atkins, Lockinge Gardens, Wantage; Mr. Woodbridge, Syon Gardens, Brentford; and Mr. J. C. Goldsmith, in the order of their names. Only one dish of Figs was staged, and that came from Mr. Sage, who was awarded the first prize.

PLUMS.—These were generally small. In the class for three dishes, distinct, there were twenty-four competitors, Mr. Sage winning the first prize with Coe's Golden Drop, Jefferson, and White Magnum Bonum. Mr. John Wells, gardener to R. Ravenhill, Esq., Fernhill, Windsor Forest, was placed second, his notable dish being Denyer's Victoria, very large. Mr. John Staple, Chipstead Place, Sevenoaks, was third. Extra prizes were awarded to Mr. Coleman and Mr. Fry, gardener to L. J. Baker, Esq., Eastcote, Pinner.

APPLES.—Ninety dishes of dessert Apples were staged, the whole of which were of very superior quality, remarkably high coloured, and uniform in size. To Mr. E. Bowles, gardener to W. Skinner, Esq., Beresford House, Maidstone, the first prize fell for Ribston Pippin, Cox's Orange Pippin, and a very handsome dish named Duchess of Gloucester. Mr. W. Goldsmith secured the second prize, and Mr. C. Haycock the third. Kitchen Apples.—There were forty-five collections, representing over eight hundred fruits—a sight worth seeing, the majority being extraordinarily fine. The first, second, and third prizes fell respectively to Mr. E. Bowles for Winter Hawthornden, Warner's King, and Stone's Seedling; Mr. James Pluck, New Street, Jersey, for Grosse Menagere, Reine d'Angleterre, and Alfriston; and Mr. P. V. Pluck, Union Street, Jersey, for Poll's Seedling, Alfriston, and Mère de Ménage. Extra prizes were awarded to Mr. Haycock and Mr. Murrell.

PEARS.—In the class for dessert Pears there were twenty-six competitors. Mr. Haycock was awarded the first prize for a very beautiful collection comprising Louise Bonne of Jersey, Fondante de Cœur, and Doyenné Boussoch. Mr. G. Gouch, gardener to C. M. Barrington, Esq., Little Malvern Court, Worcester, was awarded the second prize, and Mr. James Dean, Godstone, Surrey, the third; Mr. J. Pluck received an extra prize, all exhibiting admirable collections. For kitchen Pears the first and second prizes went to Jersey, Messrs. J. and P. V. Pluck receiving the awards for enormous-sized fruit; Mr. W. Fanning, The Convent, Rochester, being placed third.

VEGETABLES.—In the class for sixteen distinct varieties of vegetables Mr. W. Pragnell surpassed all other competitors, of which there were nine, exhibiting a splendid collection comprising Veitch's Autumn Giant Cauliflower, The Student Parsnips, Schoolmaster Potatoes, Brussels Sprouts, Ne Plus Ultra Peas, Scarlet Runner Beans, Tender-and-True Cucumbers, Improved White

Spanish Onions, Jackson's Mammoth Tomatoes, Globe Artichokes, Major Clarke's Celery, Carentan Lettuce, James's Intermediate Carrots, Long White Vegetable Marrows, Early Snowball Turnips, and Exhibition Beet: this collection was beautifully set up. Mr. C. Chaff, gardener to C. H. Goschen, Esq., Ballards, Addington, was placed second with a very excellent collection; and Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, third, who also had a very good display. Mr. R. Philips, gardener to Captain Jackson, The Deodars, Meopham, Kent, received an extra prize. In the class for eight distinct varieties sixteen collections were staged. Mr. John Baker, Broad Street, Brompton, Oxfordshire, was placed first; Mr. Charles Ross and Mr. W. Iggulden, gardener to R. B. W. Baker, Esq., Orsett Hall, Romford, Essex, equal second; and Mr. John Day, gardener to A. Seymour, Esq., Norton Hall, Daventry, third, all exhibiting well. Collections of four varieties came from Mr. C. Howard, Bridge, Canterbury. Mr. G. Woodham, gardener to W. Wright, Esq., North Dulwich, and Mr. John Sutton, Queenwood, Beddington, Croydon, who were placed first, second, and third respectively.

MISCELLANEOUS.—Several extensive and valuable collections of fruit, flowers, and vegetables were exhibited in this class, and extra prizes were awarded to Messrs. John Laing & Co., Stanstead Park, Forest Hill, for cut flowers of Tuberous Begonias in splendid varieties; to Mr. Robert Brown, gardener to F. T. Barry, Esq., St. Leonard's Hill, Windsor, for Asters; and Mr. Morgan, gardener to Major Scott, Reigate, for Asters; to Messrs. Rawlings Brothers, Romford, Essex, for a collection of Dahlias; to Mr. Walker for Onions the same as exhibited last week at South Kensington; to Mr. Cracknell, Dickwood House, Sydenham Hill, for a collection of Tomatoes, &c.; to Mr. L. A. Killick, Mount Pleasant, Langley, Maidstone, for a fine collection of Apples of about one hundred varieties; to Messrs. W. Paul & Son for an extensive collection of both Pears and Apples, numbering about two hundred dishes of the latter and sixty of the former; to Messrs. Rivers & Sons of Sawbridgeworth for splendid dishes of Pears, Apples, and Peaches; and to Mr. Foulle, gardener to Sir H. Midway, Bart., for a collection of Apples; to Messrs. Paul & Son, the Old Nurseries, Cheshunt, for a collection of 160 varieties of Apples and a large number of Pears; to Messrs. W. Paul & Son for ten beautiful boxes of Roses, which were particularly fine for so late in the season; a box of Safrano, Niphetos, and several other Teas were very pretty indeed. To Messrs. G. Paul & Son for a large collection of Roses, amongst which were a box of Capitaine Christy very beautiful; and an extra first prize to Mr. Muir, gardener to C. R. M. Talbot, Esq., for a remarkable collection of fruits of the Orange tribe in twelve varieties, which had been ripened in the open air, and which attracted considerable attention.

Mr. Wilson, gardener to Earl Fortescue, exhibited a triple Pine Apple, each fruit weighing from 2 to 3 lbs.; and Mr. Thomson exhibited male and female cones of *Encephalartos villosus*, the former being nearly 2 feet in length and the latter 9 inches, which had been grown in the Crystal Palace.

THE POTATO SHOW.

The Exhibition was a very extensive one, and the Potatoes were generally of very high quality. There was also a welcome absence of polishing, which in some past shows imparted to the tubers such an unnatural appearance; still in one or two collections there was a suspicion that the Potatoes had been washed in something more than pure water, although perhaps not in buttermilk. In the great class for twenty-four varieties Peter McKinlay, Esq., Beckenham, won the premier prize with perhaps the finest collection that has ever been staged. The following are the varieties:—Grampian, Snowflake, Trophy, Schoolmaster, Lady Webster, Porter's Excelsior, Blanchard, Woodstock Kidney, Ash-top Fluke, Shelburne, Beauty of Hebron, Early King, Late Rose, Rector of Woodstock, Beckenham Beauty, International, Red Emperor, New Cambridge Kidney, Extra Early Vermont, Onwards, Edgcott Seedling, King of Potatoes, Superior, and Breadfruit. Second Mr. J. Pink, Lees Court, Faversham; third Mr. W. Finlay, Banbury, Oxon; fourth Mr. G. Bagerley, Lysterston Lodge, Newark; fifth Mr. Ellington.

In Class B, for eighteen varieties, twenty-four collections were staged for the prizes offered by Messrs. Sutton & Sons. Mr. F. Cresswell, gardener to Lord Gwydyr, was placed first with King, Manhattan, Coldstream, Red-skin Flourball, Burntink Seedling, Lady Webster, Bresee's Peerless, Carter's Breadfruit, Magnum Bonum, Snowflake, International, Vermont Beauty, Schoolmaster, Beauty of Hebron, Superior, Norfolk Giant, Covent Garden Perfection, Early Goodrich. Mr. James Pink was second; Mr. G. Bagerley third; Mr. J. Belliss, gardener to Major Thoyts, Reading, fourth; and Mr. J. Wildsmith, Heckfield, fifth. Great surprise was expressed by many exhibitors that the first prize in this class should have been awarded to specimens that were altogether too large to be placed on any gentleman's table. In Class C, for twelve varieties, sixteen collections were staged. Mr. W. Finlay received the first prize with Schoolmaster, Scotch Blue, Prince of Wales, Lapstone, Crimson Ashleaf, Red Fluke, Royal Ashleaf, Wonderful, Salmon Kidney, Rector of Woodstock, Mag-

num Bonum, and Red Regent—a splendid collection. Mr. James Pink was second with splendid dishes. Mr. R. Dean, Ealing, third; and Mr. W. Ellington fourth. In Class D, for nine American varieties, twelve collections were staged, the first prize falling to Messrs. Lott & Hart, Faversham, for Trophy, Early Goodrich, Brownell's Beauty, Superior, Bresee's Prolific, and Beauty of Hebron. Mr. James Pink was second, Mr. R. Farquhar, Fyvie, N.B., third, and Mr. Peter McKinlay fourth. In Class E, for six dishes distinct, to include Lye's Favourite, fourteen collections were staged for Messrs. Daniell's prizes. Mr. William Finlay, Oxon, won the first position with Lye's Favourite, Schoolmaster, Scotch Blue, Blanchard, Porter's Excelsior, and Edgcott Seedling, even-sized and polished. Mr. James Miller, Hamstead Park, Newbury, was second, Messrs. Lott & Hart third, and Mr. James Pink fourth. In Class F, for four dishes, two rounds and two kidneys, thirty collections were staged, Mr. William Finlay being placed first with Blanchard, Magnum Bonum, Lapstone, and Scotch Blue. Mr. F. Miller, gardener to J. F. Friend, Esq. Margate, was second, Messrs. Lott & Hart third, and Mr. R. Dean fourth. In Class G, six dishes of new varieties not in commerce, Mr. James Pink secured the first prize with Early King, Triumph, Manhattan, Trophy, Beauty of Kent, and Beauty of Hebron. Mr. P. McKinlay was second, and Messrs. Lott & Hart third. In Class H, for two dishes, round and kidney, thirty-six collections were staged. Mr. C. Howard, Bridge, Canterbury, was first with Schoolmaster and Edgcott Seedling; Mr. C. Ross second, and Mr. R. Dean third.

SINGLE DISHES.—In Class J, for the best dish of any white round Potato, thirty-five collections were staged. Mr. R. Ironside, Ingleston, Inverarie, was first with Early Handsworth; Mr. J. Belliss second with Schoolmaster; and Mr. A. Halliday, Old Meldrum, N.B., third. In Class K, for the best dish of any coloured round Potato, thirty-one collections were staged, Mr. W. Emerson, Cold Ashby, Welford, Rugby, being placed first with Red Emperor; Mr. P. McKinlay second with Blanchard; and Mr. J. Miller, Newbury, third with Red Emperor. In Class M, for the best dish of any coloured kidney variety, twenty-nine collections were staged. Mr. R. Farquhar was first with Purple Ashleaf, Mr. R. Dean second with Garibaldi, and Mr. W. Finlay third with Bountiful. In Class N, for the best dish of International Kidney, twelve collections were staged. Mr. Finlay was first, Mr. C. Ross second, and Mr. G. Bagerley third; all staging splendid dishes. In Class O, for the best dish of Covent Garden Potato, eleven collections were staged. Mr. R. Farquhar was first, Mr. J. N. Belliss second, and Mr. F. Cresswell, gardener to Lord Gwydyr, third. In Class P, for the best dish of any White Ashleaved Kidney, sixteen collections were staged. Mr. G. Bagerley was placed first with Ash-top Fluke, Mr. R. Farquhar second with Old Ashleaf, and Mr. W. Finlay third with the same variety. In Class Q, for the best dish of Grampian, Mr. John Falconer, Kintore, Aberdeen, N.B., was placed first; Mr. James Neighbour, Bickley, Kent, second; and Mr. G. Bagerley third.

The total number of dishes in competition at this great and good Show was 1539. In addition to the above, extensive miscellaneous collections were staged by some of the principal trade growers. Messrs. Sutton & Sons exhibited fifty dishes of all the leading show varieties, including the new Woodstock Kidney, a beautifully shaped rough-skinned variety of great promise; also fine heaps of Magnum Bonum. Rector of Woodstock, Yorkshire Hero, Early Oxford, and Sutton's King of Potatoes were especially fine in this collection. Messrs. Carter & Co. exhibited grand heaps of Improved Magnum Bonum grown at Sandringham, Snowflake, Bresee's Prolific, Schoolmaster, Carter's Excelsior, and other varieties of superior merit; and Messrs. Hooper and Co. staged twenty-two baskets principally of American varieties. The certificates were not awarded when we left the Exhibition, which was altogether a great success. The patrons of the Society, Judges, &c., dined together in the Marble Hall of the Palace after the adjudication of the prizes.

DRESSING CARNATIONS.

DOES not "WYLD SAVAGE" dress the Rose at all? Are the fine flowers he shows the natural growth of the half-starved stunted plants which are grown in his garden? Does he add a leaf or two, sometimes a bud, to his flower? Does he tie the flowers up with a piece of twine or bast, and cut the same just before leaving the stands for the judges to go over? If so, is it not dressing? Dressing the Carnations is legitimate, or at least it would be considered so in any court. I have been a dresser of these flowers during nearly thirty years, and I knew men when I commenced who had been dressers nearly fifty years; this takes up fully three-quarters of a century. If the answer is, "You had nothing to dress then," that is a mistake. We had at that day nearly as fine Carnations as we have now. It is only in Picotees that, thanks to Messrs. Dodwell, Norman, Turner, Simonite, and a few others, we have lately approached perfection. I have in my possession an account of the "flower

shows," as they are called, held in England in 1821. There are particulars of thirty-seven exhibitions of Carnations alone, containing the names of 189 winning varieties of Carnations and fifty-two of Picotees. The flowers were dressed at that date, and hard, too, it used to be then—two tiers of petals and a crown; now the flowers are dressed more naturally.

Having proved the antiquity of dressing let us see its effects as practised now. The Carnations we exhibit are grown generally in pots, and the plants in most cases are disbudded to some two or three buds in order to obtain size of flower. Some growers bloom them on a card, dressing or laying down the petals as they expand. When done this way the dresser can make little, if any, improvement in a flower.

Another advantage of this mode is that it prevents the back petals of a flower from curling under, which when they do in an old flower are almost impossible to be straightened.

Some say to me, "Why grow flowers given to curling?" I should be glad to discard them, only we have nothing as good in other respects to grow in their place, and, what is more, do not expect we shall have for a number of years, good seedlings being produced so rarely.

The calyx needs attending to in some varieties, being so stiff that if the flower is not assisted by slitting down the segments probably it will never expand, but burst out on one side and form what is called a "split pod." Also in the stiff calyces the points of the calyx interfere with the laying-down of the petals, standing up as they do amongst them. In this case the dresser, using a pair of strong steel tweezers, turns round the points of the calyx, which leaves room for the petals to expand and show themselves to advantage.

The Carnation being a sportive flower, its flowers frequently show more colour in the petals on one side than another, and then the dresser assists in distributing the petals.

Originally a single flower containing four petals, now perhaps a score, these have to grow through the calyx, the outer portions of the petals being so much larger than the footstalks enlarge the calyx, so much so that in some situations the petals are all open together, and if dressing is not to be allowed I for one should be unable to exhibit. As to blooming them on a card, that is out of the question, as there is no doubt but that both flower and card would be wrenched off by the wind.

"WYLD SAVAGE" complains that the rabbits are troublesome, eating the plants. The florist has to prevent them so doing. This is very easily effected. A stage 3 feet high to stand the pots on, or a little wire fencing to form a fence around the stage 13 yards by 4, will give ample room for three hundred pots or six hundred plants. After layering and when taken off they have the protection of a frame (which can easily be made rabbit-proof) during the winter months, a two-light frame 6 feet square being sufficiently large to winter that quantity.

If the soil in "WYLD SAVAGE's" garden is so poor as he says, I think he cannot do better than substitute the growth of Carnations for Roses, as they do not require a couple of barrow-loads of soil and manure each as the Rose does. He would find that two loads of good turfy loam with a mixture of decayed dung and leaf soil would be ample to grow four or five hundred pots of Carnations. The soil after being used for Carnations would grow Roses another year. I remember growing a few Roses in pots some twenty years ago. At the end of the season when I had emptied the soil out of my Carnation pots I also emptied out at my liquid manure tub, which contained sheep dung. In this I planted my Roses, and I never remember to have had a finer bloom than I had the spring following.

When I was a young grower the growing of Auriculas, Carnations, &c., used to be mystified, but, thanks to Mr. Dodwell and a few others, there is now no secrecy about it. If a beginner wants to learn to dress flowers he has nothing to do but attend an exhibition, and nearly any florist there will show him.

I would recommend at an exhibition a prize to be given for the best dressed flower, to be dressed at the place of exhibition, limiting the time of dressing to ten minutes. This would give all beginners a chance of seeing how it is done.

Doing away with dressing is out of the question. As I have before stated, growers in windy situations would have no chance. And again, there would always be found exhibitors who would dress a little, consequently it is best to let all do their best. But after all, "WYLD SAVAGE" may depend on one thing, and that is the best flower will win. I shall be well repaid if my few remarks induce but one "wyld savage" to

become a Carnation grower, and nothing would give me greater pleasure than to forward him a few plants with the best wishes of—A GILLYFLOWER.

YOUR correspondent, "D., Deal," has returned to the subject of dressing Carnations, and has introduced a string of comments from contemporary journals to prove that he is right. Some of the illustrations are unworthy of notice, and some of the statements made by your correspondent are not correct. The Carnation is not throttled by a "paper collar." A circular card with a hole in the centre is placed to show the flower to the best advantage; the hole in no instance presses the calyx. Does "D., Deal," really wish your readers to believe that all the delicate beauty of the petal is "destroyed, flattened, or pushed out" "by a series of instruments like a dentist's collection?" Does he believe it himself?

We next come to the assertion about mutilating the flowers. If "D., Deal," wished to show the weakness of his own position he could not have chosen a better quotation than the following:—"Mutilating the flowers with pincers and other instruments are a disgrace to lovers of flowers, and are a means of deceiving the public who are ignorant of such maltreatment; and it is no more right to take from or add to their flowers than it is for exhibitors of animals to take from or add to their tails." I have exhibited all sorts of flowers and have seen others exhibited. I love the flowers that I grow and give others credit for the same. If there is a bad flower on a Hyacinth spike the exhibitor cuts it off. If there are too many the exhibitor cuts a few out to allow those that remain to grow to their full size. He would do it if he did not intend to exhibit them because he likes to see well-developed pips, and he does not think he is doing wrong any more than when he uses the same scissors to thin-out the berries from his bunches of Grapes for the same reason.

An exhibitor of Orchids, Pelargoniums, Roses, &c., will cut imperfectly developed trusses or flowers from a plant they are exhibiting, and they will cut "run" flowers from a truss either on the home stage or for exhibition. Why? Because they love their flowers and like to see them perfect. This is not mutilating them. The judges at a Carnation show would disqualify mutilated flowers; even cutting off the top of a calyx disqualifies; a split pod disqualifies. No exhibitor ever took half the petals from a Picotee as stated. Petals are very seldom removed, but a self petal in a Carnation would disqualify, and an exhibitor wisely removes it.

Does this bear any relation to mutilating an animal? "D., Deal," wishes to exhibit a donkey, let us say, and the judges go in for certain points, even to the colour; but a hair or two is wrong on the animal's coat, and if left in would disqualify. I fancy he would pull them out. He would do it to hide a blemish, not to make one. But suppose its ears are too long and he trims them, or he cuts off half the tail to bring it down to the regulation standard, what then? The judges would disqualify, and the Society for the Prevention of Cruelty to Animals would also have something to say. You may brush and dress your donkey, but you must not mutilate him.

Your correspondent admits that it is right to arrange the petals of the flower. In most cases this is all that is done. No exhibitor adds to a flower, and only a tyro would extract petals in the wholesale manner suggested, or he would not have a place on the prize list.—J. DOUGLAS.

P.S.—An exhibitor brought a collection of Hyacinths to Kensington once. The spikes were not dressed, and if they had been exhibited as they were would have found no place on the prize list. I dressed them for him in the usual way, and the exhibitor gained the first prize. Who ought to have received it? I did not. He did not say it was wrong to dress them, and he retained the prize money. Those who live in glass houses should not throw stones.—J. D.

THE FRUITERERS' COMPANY.—In pursuance of an agreeable annual custom the Wardens and Court waited upon the Lord Mayor and the Lady Mayoress on the 17th inst. at the Mansion House and presented them with a splendid assortment of the fruits in season. The gift, which was tastefully laid out in the saloon, included Pine Apples, Strawberries, Grapes, Peaches, Melons, Apples, Pears, all of the first quality. The presentation was made by Mr. Alderman Knight, the acting Master, who spoke of the custom as an act of respect to the Chief Magistrate as the head of the Corporation with which the City Companies were so intimately connected, and who wished that

the usage was followed by the richer and larger guilds, whose offerings would be infinitely more worthy of the acceptance of the Lord Mayor and the Lady Mayoress. In reply the Lord Mayor thanked the Company warmly for their gift, and also, in accordance with custom, invited them to dine with him at the Mansion House.

SINGLE DAHLIAS.

For a number of years past raisers of new varieties of Dahlias have devoted their attention almost wholly to the raising of double flowers, and have reached a point of excel-

lence to which it appears difficult to make any further advance. New colours or combinations of colours may be produced, but as far as regards shape and symmetry of the blooms little, if any, improvement can be expected. There is, however, a wide field open for raising new varieties having single flowers, and we shall not be surprised if single Dahlias do not become popular.

We last year referred approvingly to two rows of single Dahlias, scarlet and yellow, in the nurseries of Messrs. Veitch and Sons at Chelsea. No one could see those varieties as there grown in quantity without being impressed by their chaste yet glowing beauty. Mr. Cannell also, at the last



Fig. 38.—DAHLIA PARAGON.

meeting of the Royal Horticultural Society, exhibited beautiful blooms of these varieties under the names of *coccinea* and *lutea*, and also submitted a third variety, named *Paragon*, which by the richness of its colours and its exquisite form caused something like a sensation in the Council-room. This striking Dahlia was unanimously awarded a first-class certificate, and the honour has not this year been bestowed on a flower more rich in colour and more distinct—so distinct that it was considered by some of its admirers as a species: it is, however, probably a variety of the old crimson fertile-rayed Dahlia *superflua*. In every point it is an improvement on *D. superflua*, which has long pointed petals that do not overlap; the variety *Paragon* has smooth rounded petals, which, besides overlapping, have a slight but elegant reflex, contributing

greatly to the refinement of the flower. The colour, too, is intensely rich—a glowing velvety maroon, each petal having further a well-defined narrow margin of reddish claret. The petals are also of good substance, and the flower is perfectly round like a *Zinnia*. The yellow and scarlet varieties noticed also possess the same excellence of form, and are singularly clear in colour. The accompanying figure of *Paragon* shows the form of those single Dahlias and how much they are in advance of the starry single flowers of our forefathers.

The plants are free in growth and floriferous, and are eminently suited for forming back rows in borders, while the flowers are admirably adapted for the decoration of vases, &c., for which double flowers are too heavy and formal. A white single Dahlia having the same good qualities of form and

substance of petals as the varieties now alluded to would be a valuable acquisition. There is no reason why it should not be forthcoming; but in the meantime let the brilliant trio referred to be increased, for assuredly they are worthy of extensive cultivation.

CHELTENHAM AND COUNTY OF GLOUCESTER ROYAL HORTICULTURAL SOCIETY.

THE autumn and final Show of the season of this Society took place on the 18th inst. at the Montpelier Gardens, Cheltenham; and although the weather in the morning was inauspicious, before the opening of the Exhibition at two o'clock the sky cleared, and a full measure of autumn sunshine helped to set off to the best advantage the yet bright green tints of the lawns and foliage in this pretty and well-kept resort, the grounds looking almost as fresh as in early summer. It has seldom been my fortune to visit a better, although I have seen many larger shows, and the enormity as well as the quality of some of the individual exhibits, especially in the vegetable and salad departments, were far in excess of those usually met at horticultural shows; and if the exhibitors do not find their efforts an overtax it is not in the interest of the sight-seeing visitors that such efforts should be contracted, for the improved effect of such masses over many small collections and specimens is undeniable. It is hardly possible to have too much of a good thing, but it is questionable whether eventually sound progress in horticulture can be attained or even advanced by the exhibition of baskets of salads 8 feet high by 6 feet in diameter! Here half the space in a large marquee had to be devoted to four baskets of salad; and about a bushel of Brussels Sprouts, two dozen large heads of Celery, twelve fine Broccoli, seven brace of Cucumbers, 120 Tomatoes, and upwards of a peck of Capsicums, each constituted a dish of vegetables; Potatoes, Carrots, &c., in proportion! In former years I have seen the profusion of good things coming from the Cheltenham *Jardins Potagères* but the prodigious masses exhibited on this occasion show that the spirit of emulation in this department of horticulture has lately at Cheltenham been well kept alive there. It may be that vegetarianism is getting dominant in the garden town: certain it is also that the many showy and good fruiterers' and greengrocers' shops in the place exhibit a Californian profusion of fine vegetables, and there must be, what I am looking for, some good garden land in the locality. The question, however, is, Will not this gigantic scale of exhibiting tend to bring round a counter current? and is it not frequently one of the ultimate causes of failure of horticultural shows and the good they are intended to promote? It is only those who have been behind the scenes who know the extent of ground, the labour, and the cost of producing such collections; and I have known an enthusiastic amateur and exhibitor decline further exhibiting on the ground that his gardener dug up an acre of Potatoes on one occasion for a show dish! And I fancy that a rood of well-cultivated garden ground would not suffice for the origin of some of the Cheltenham exhibits.

In tent No. 1, the first prize for a collection of vegetables, nine dishes, was awarded to Mr. Turk, who had good Early Rose Potatoes, Cucumbers, Broccoli, Tomatoes, red and yellow Capsicums, Brussels Sprouts, Turnips, and Intermediate Carrots. Mr. Holder was second, having good Cucumbers, Artichokes, Parsnips, and White Stone Turnips. For the six dishes, Mr. Arkell, gardener to A. J. Skinner, Esq., whose exhibit was even larger in quantity and as good in quality as those in the previous class, the collection occupying a space of about 12 feet by 8. He had Fenn's International Potato, fine; Cucumbers, Tomatoes, white Celery, red and yellow Capsicums, and Intermediate Carrots. Mr. Crump, gardener to J. S. Surman, Esq., was second, including in his lot good Peas, Broccoli, and Tomatoes; and Mr. Reason, gardener to J. B. Winterbotham, Esq., was third. Peas were well shown by Mr. Arkell and others, the best being Ne Plus Ultra, Omega, G. F. Wilson, and Supreme. For the collection of salad Messrs. E. Smith & Son, Cheltenham, were first with a very large and varied basket quite up to the usual Cheltenham quality. The second and third prizes went to Mr. J. J. Smith and Mr. Holder respectively. They had rather smaller but equally good collections. Very fine and well-ripened Giant Rocca Onions, almost equal to the best Lisbon, came from Mr. Holder, Mr. Turk having also very good White Spanish.

Fruit was good and largely shown. The first prize for a collection of six varieties was awarded to Messrs. E. Smith & Son, the second and third equally to Mr. Moorman and Mr. Green, the latter having some very fine Black Alicante Grapes, bunches large, finish and colour good. The prize collections in this class are given for the annual dinner of the Society. For the collection of four varieties Mr. Mayo, gardener to G. Makgill, Esq., Cheltenham, was first, having recently-cut and old Bowood Muscat Grapes in the same dish. Good Grapes also came from Mr. Hunt, gardener to F. Butt, Esq., who had three well-finished but not large bunches of Black Hamburgs, and was placed first. For the single dish of white Grapes Mr. Wiggins, gardener to Alderman Freeman, was first; and for the two varieties of black,

three bunches of each, Mr. Green was first with large and well-coloured Black Alicante and good Black Hamburgs. In the class for two varieties of white Grapes Mr. Moorman was first with White Syrian and a distinct white Muscat seedling, the berries being large and almost pear-shaped, but not quite ripe. Peaches and Nectarines were good. J. L. Anley, Esq., and Mr. Green having Rivers' Princess of Wales Peach, fine; J. Gall, Esq., also having Pitmaston Orange Nectarine, good. Mr. Mayo showed an Apple called Lord Clyde, of the Golden Noble type, in conjunction with Bon Chrétien Pear, and was placed first in the class for a dish of each. Some pretty specimens of Apple Orange Pearmain were also shown, but the flavour was poor and pasty.

Potatoes were not so good as usual for the season. In the open collection, number of varieties, the first prize was awarded to Messrs. E. Smith & Son, who had a large collection of about fifty varieties, and amongst them good specimens of Gloucestershire Kidney, McKinlay's Pride, Bountiful, Webb's Surprise, King of Potatoes, Dalmahoy, large; Early Rose, Climax, and a variety called Smith's Seedling, in appearance very much like Scotch Blue, but the collection in the whole was irregular and badly matched. Mr. Barnes was second, showing a less number of varieties but a very even lot, all being good alike. He had Schoolmaster, International, Wheeler's Safeguard, Bountiful, Royal Ashleaf, Scotch Champion, Snowflake, Early Don, Rector of Woodstock, Blanchard, Ashtop Fluke, Bresee's Prolific, Model, Red Emperor, American Breadfruit, Early Rose, Imperial Kidney, Giant King, Climax, Queen of Flukes, Late Rose, Manchester, and Sutton's Magnum Bonum, of which Potato I hear from many quarters marvellous reports as to its good quality and productiveness. Mr. Crump was third, having good examples of William Earley, Safeguard, Peachblow, Rivers's Ashleaf, Sutton's Perfection, Fenn's Early Market, Red-skin Flourball, and Gloucestershire Kidney.

Tent No. 2 was in a blaze with the most brilliant, best grown, and profusely bloomed lot of Zonal Geraniums I have seen for some time. They were staged very effectively on a low platform about 1 foot 6 inches high. Each plant was about 4 feet in diameter, and the *tout ensemble* was very fine. The best twelve came from Mr. Rose, gardener to Mrs. Boulton, who had Col. Holden, very good; De Lesseps, Acme, La Tournaise, Madame Werle, Dame Blanche, Mrs. William Paul, Master Christine, and Peeress. Mr. Cypher was second, having striking specimens of Santley, Adelina Patty, and Woman in White. Mr. A. Mansfield was third; Comet, Mrs. H. Cannell, Mrs. F. Fenn, Polly King, and The Shah being the best.

In cut flowers good autumn Roses were shown. A fine stand of twelve varieties, not less than three trusses, coming from Mr. Shaw (it is a matter of regret that the addresses of the exhibitors were rarely given). He had Marquise de Castellane and Duke of Edinburgh very fine, also good blooms of Prince Camille de Rohan, Comtesse d'Oxford, Beauty of Waltham, Baronne de Rothschild, La France, Annie Wood, Gloire de Dijon, and Charles Lefebvre. Mr. Jackson, Blakedown Nurseries, Kidderminster, was second, having W. Wilson Saunders fine, and nice blooms of Capitaine Christy, A. Rigotard, Paul Neyron, Marguerite de St. Amand, and Souvenir de Paul Neyron, Teas. Mr. Garraway, Bath, was third, Maréchal Niel, Perle des Jardins, Catherine Mermet (fine and shell-like), and Comtesse d'Oxford being his best. A stand of twenty-four very clean and magnificent blooms of Maréchal Niel not for competition also came from Mr. Garraway, and to which an honorary prize was awarded. These appeared quite equal to the fine blooms usually seen at the Crystal Palace Shows in June.

Dahlias were very good, the finest stands coming from Mr. Jackson of Kidderminster, who was first both for the twenty-four Show and twelve Fancy. It may be of service to growers and amateurs to have a list of those shown by this successful grower. His twenty-four Show varieties consisted of John W. Lord, Henry Walton, Herbert Turner, Admiration (Keynes 1878), Burgundy, Perfection of Primroses, Charles Leicester, Acme of Perfection, Henry Bond (Keynes 1878, a distinct mauve), Empress Maud, Vice-President, Monarch, Artiste, John Neville, Criterion, Mrs. John Downie, Thomas Goodwin, John Bennett, John Standish, Royal Purple, Rev. Dr. Moffat, Jeanie Grieve, Leader, and Lady Herbert. Mr. Jackson's twelve Fancies were George Barnes, Hercules, John Lamont, Richard Dean, Henry Glasscock, Regularity, John Saunders, Letty Coles, Mrs. Saunders, Egyptian Prince, Flora Wyatt, and Fanny Sturt. Mr. Shaw was second for the twenty-four Show, having very fine blooms of Woman in White and Herbert White, two large pure whites; Messrs. Heath and Son being third, Lord Derby and Charles Backhouse being very brilliant and conspicuous in their stand. For the twelve Fancies Mr. Shaw was second, and Mr. Barnes third.

Messrs. Heath were awarded an honorary prize for seedling Dahlia Sir Stafford Northcote, bronzy orange of good form, but as shown slightly flat in the centre: more, however, will probably be heard of this, as it is likely to be an advance. Messrs. Heath had also a large stand of a new white bouquet Dahlia, Guiding Star.

Asters were remarkably good, and formed a great contrast to

those shown at Northampton. Mr. J. Walters, who has latterly taken a leading position with this flower, was first for twenty-four French, and he has rarely been in better form. Messrs. Heath were second and Messrs. Garraway third, all showing well. For twenty-four German Quilled Mr. Walters was again first with the good old Globe sort, and had some very distinct varieties; Mr. Garraway was second, and Mr. Crump third.

For table decorations Mr. A. Mansfield, gardener to W. Fletcher, Esq., was first, E. Pilgrim, Esq., second, and Mr. Smith, gardener to Mrs. General Tickhill, third. A very beautiful bouquet from Miss Cypher was awarded first, Mr. Jackson being second, and Mr. Mayo third.

In the large plant tent a complete hedge of Fuchsias was formed down each side, most of the plants being from 4 to 6 feet high and well grown in the West of England style. For six varieties Mrs. Tickhill was first, and for four varieties Mr. Mayo. By far the best habit and most floriferous of the darks was Rhoderick Dhu, somewhat after the Souvenir de Chiswick style. The best light-sepalled varieties were Rose of Castle, Wiltshire Lass, Alexandrina, Lustre, and Evening Star. White Perfection, although neither a large nor a perfect flower, is very distinct and floriferous as a white-corolla variety.

In Ferns and Mosses some very fine specimens were shown. Mr. Hamlett, gardener to E. Pilgrim, Esq., was first, and Mr. Cypher second; and for twenty-four British Ferns Mr. Hamlett was again first, having unusually large and well-grown plants, several of the specimens being from 3 to 4 feet in diameter and in effect equalling the exotic species. The most striking were *Polystichum angulare* proliferum and *P. angulare* Patey, *Osmunda regalis cristata*, *Scolopendrium ramosum*, and *Lastrea Filix-mas cristata angustata*, very curious and distinct.

Lastly, the stove and greenhouse plants, for which Cheltenham has notably for some time past been an important centre, were, as it would be anticipated, remarkably fine, and larger, choicer, and better-grown plants are rarely met with at the South Kensington and Regent's Park exhibitions than those exhibited on this occasion by Messrs. Cypher, Pilgrim, Heath, and others. For the collection of eight Mr. Cypher was first, and it is marvellous how little his plants, which for weeks past must have been so frequently on the move and have been almost half the time in the dark, appear to show the effect of their travel. Mr. Pilgrim was second with large plants, little if in any way inferior. For the collection of four varieties Messrs. Heath were first, and Mr. Skinner, gardener to E. Armitage, Esq., second.

In the class for thirty plants grouped for effect a large space was well occupied by Mr. Pilgrim, who was first; and by Mr. Cypher and Messrs. Heath, who were respectively second and third. A fine specimen of the Turk's Cap *Melocactus* from J. Robertson, Esq., attracted attention, and there were many other interesting points in the Show, but time prevented my further encroaching upon your space.

The annual public dinner took place in the evening at the Plough Hotel under the presidency of W. N. Skillicome, Esq., and this year the occasion was improved upon by the presentation to Mr. H. J. Cochrane of the *Cheltenham Chronicle*, the worthy Secretary of the Society, of a very handsome illuminated testimonial on vellum, with a gold watch and appendages of the value of sixty guineas, from a large number of horticultural and other friends, in recognition of his valuable services as Secretary of the Society during the past twenty-five years. Not a little of the success and prosperity which the Cheltenham exhibitions have attained is due to Mr. Cochrane's exertions. May he long yet continue to promote the horticultural interests of the town and county.

It is to be regretted that at these shows few beyond subscribers and the *élite* of the neighbourhood are enabled, in consequence of the restrictive prices of admission, to appreciate such really good specimens of horticultural skill. If the Show were opened at one o'clock, or even earlier, as is done in some places, the subscribers would probably be as well pleased with an earlier view, and in the evening with a low admission fee the masses from the two large towns of Cheltenham and Gloucester would most likely advance the interests of the Society, even in a financial way, as well as its means for good in a horticultural point of view.—T. LAXTON, Bedford.

AUTUMN ROSES AT WALTHAM CROSS.

It is a little difficult to take notes of Roses in a heavy thunderstorm, whilst you hold an umbrella in one hand and a notebook in the other, and all the time the rain is soaking you to the skin; but such was my fate on August 30th, and if these notes are found to be less copious or less satisfactory than those on other nurseries I hope your readers will consider the cause and be merciful in their judgment.

This was my first visit to Mr. William Paul's nursery, and I hope it will not be the last. In fact I would rather not count it as a visit at all, as I was so very uncomfortable and so soaked with rain that I could not call on Mr. Paul himself, but had to hurry back to town.

The nursery is approached from the platform of the railway by a very pretty walk. On each side are planted Roses, dwarfs in a bed to the left and standards to the right. After following the railway fence for 50 or 60 yards you come to the nursery. This is a very extensive one, but almost on a dead level, so that you cannot appreciate its size all at once. The arrangement of the ground struck me as being particularly good.

From the walk which bordered the railway broad grass paths branched off, which led right through the nursery. These were kept close shorn by the machine and looked well. On each side the paths were wide beds containing about twenty dwarf Roses of the same variety, and at the back of these were standard Hollies at regular intervals; behind these were in one case fruit trees, in another Conifers, and further up in the nursery great collections of Roses and Rose stocks of all sorts. There were a very fine lot of blooms in spite of the weather, more especially on the dwarfs. All the varieties I noticed elsewhere as being good autumn bloomers were here well represented. I had no opportunity of seeing the seedlings on account of the weather, but I know Mr. Paul has many very promising ones.

Of the autumnal bloomers, here as at Cheshunt the Teas were the best; next to them came the Bourbons. These two varieties cannot be too highly recommended to amateurs as autumnal bloomers. I cannot imagine anything looking better than would a long bed of Bourbons. A very good selection would be the following, and anyone can verify the truth of what I say by taking a return ticket to Waltham—*Modèle de Perfection*, Sir Joseph Paxton, Baron Gonella, Bourbon Queen, and Souvenir de Malmaison. In another bed I would plant Teas and Noisettes, consisting of the following—Rubens, Niphetos, Marie Van Houtte, Madame Berard, Louise de Savoie, Belle Lyonnaise, Céline Forestier, Madame Falcot, Safrano, Triomphe de Rennes, and Souvenir d'un Ami: all these are exceedingly free bloomers now.

Of Hybrid Perpetuals the best bloomers as seen at this large nursery are: Whites and blush—Madame Rothschild, Capitaine Christy, Boule de Neige, and Mrs. Bellenden Ker; rose shades—Paul Neyron, Dupuy Jamain, Edouard Morren, Hippolyte Jamain, Alfred Colomb, and Marie Baumann; dark—Duke of Edinburgh, Duke of Wellington, Fisher Holmes, Sultan of Zanzibar, Annie Wood, Pierre Notting, and Camille de Rohan.

I think I have not seen this year such lovely blooms of my great favourite Marie Van Houtte as I saw at Waltham. All the Teas, however, were doing very well. Mr. William Paul never exhibits for competition. He grows very largely, and has now a stock of 500,000 plants for sale, but he does not care to undertake the labour and trouble of exhibiting at our great contests. His name is so well known that he can always sell his plants without exhibiting, but at rare intervals he has a show of his own which a little astonishes the rosarians. At the Royal Botanic, for instance, he once clothed a bank with cut blooms set in moss after the French style, and at the Crystal Palace and other places in the spring of the year he has made wonderful displays with his Roses in pots. His place is a most convenient one to get at, and if the weather ever does take up I should advise my brethren who wish to see autumnal Roses to pay Mr. Paul an early visit.—WYLD SAVAGE.

SUTTON & SONS, READING.

No one can approach Reading by either of the iron roads from London without seeing something of "Suttons, Seedsmen." Acres of Cabbages, plantations of Potatoes, mountains of manure, relieved with Pampas Grass avenues, all proclaim the region of the great seedsmen no less than the notice boards; while in the good town itself those mythological monsters which have been fighting for the crown all these years, and are as far as ever from settling which is to have it, surmounted on the magnificent buildings in the market-place indicate head quarters.

Sutton is a name known widely for good at Reading. I am almost tempted, when I look round and see that coffee palace with its splendid hall appropriated to religious meetings, or hear of fresh charities, to repeat Mr. Pope's inquiry—

"Who hung with woods yon mountain's sultry brow?
From the dry rock who bade the waters flow?
Whose causeway parts the vale with shady rows?
Whose seats the weary traveller repose?
Who taught the heaven-directed spire to rise?
'The Man of Ross,' each lisping babe replies."

But I believe happy Reading has more than one Man of Ross.

Certainly the devout dedicating of a fixed portion of income has brought with it an increased portion of income to dedicate. But my mission at Reading was to see Messrs. Suttons' Roses; and here I am in the position of Canning's needy knife-grinder. Story, Mr. Editor! I have none to tell you. It is much like that second chapter of the History of Iceland, "On the snakes of Iceland," "There are no snakes in Iceland." Alas! there are now no Roses at Suttons' except a choice few upon Manetti and seedling Briar, just to show how well they once were and might be grown. Seed-saving and seed-selecting now prevail. The Roses are gone, the fruit trees are going, the glass has been annexed for series after series of serials. About forty acres are under cultivation in the approach to Reading, and some eight acres more at the London Road gardens, and in each seed-selecting reigns supreme.

The courteous and highly intelligent foreman Mr. Martin did his best to console me, inwardly scandalised, I am sure, by my ignorance and indifference, as he showed me what had replaced the Roses—beds of the most unblushing and aggravating Dahlias, amazing Asters, huge Hollyhocks, and other heartless supplanters of the choice standards of better days. In one place, however, he did fix my attention, and that was in the splendid house of Cyclamens, these being at the present the reigning beauties of the nursery. Great attention has been given of late here to hybridising, special brushes being used for special sorts of pollen, all the finest seedlings being selected and set aside for breeding from, and the results show already a great stride forward in excellence. These charming three-months-in-flower denizens of the greenhouse are attaining here an excellence I never saw equalled. The variety of leaf attained appears yet more remarkable. In the persicum house there were several that might be called maculatum, but in the house of the giant species these were really gigantic, leaves of wonderful size and most beautifully variegated. I anticipate a great demand as these come into commerce.—A. C.

TRAPPING WASPS.

WASPS are very numerous this season. Many of our Peaches, Plums, &c., on the open walls were destroyed by them. Where there is much fruit to tempt them on open walls it is no easy matter to induce them to enter any trap. I find the best way is to allow them to congregate in the inside of the fruit, and then go round the wall with a pair of gloves on and firmly press all those fruits that are filled with wasps, so as to kill them. When allowed to eat one fruit they generally prefer this to beginning on another, and it is surprising how quickly a crowd of them will eat the centre out of any fruit and leave nothing but the skin; but it is just before the inside has been entirely cleaned out that is the time to kill them. Sometimes thirty and forty may be found inside at a time, and to kill this number is worth losing a few fruit.

The vineries have also been a favourite resort of these pests. Although all kinds of netting may be put over the ventilators they generally find their way inside by some small hole or other. The plan of hanging up bottles filled with sour beer is not such a good one as having some jam mugs set here and there with a little jam in the bottom of them made into syrup with water. They go to feed on this and drop into it by the dozen.

Last year a story appeared in some of the gardening papers that wasps would not live in a house where Tomatoes were growing. We have Tomatoes surrounding the ventilators, and the wasps came through amongst the leaves to reach the Grapes. Wherever there is a little space at the bottom of the walls it is filled up with Tomatoes, and some of their leaves are touching the fruit, yet the wasps attack them the same as if there was nothing of the kind there.—A KITCHEN GARDENER.

NOTES AND GLEANINGS.

WE regret to find by a circular that has been issued by the Local Committee of the late HORTICULTURAL SHOW HELD AT PRESTON that there is a large deficit of nearly £1500 after paying all expenses. This deficiency is attributed by the Committee to "the wet weather of the first two days, and the presence of the Lord Mayor of London at that time in Blackpool on the occasion of the opening of the Winter Gardens." We have no doubt that the appeal issued by the Committee to the town and county will meet with the response it deserves, and that the town and Lancashire will not allow it to be said that the first failure of the provincial shows took place in 'proud Preston.'

— MR. IGGULDEN and another correspondent recently alluded to ANTS AS INSECT DESTROYERS. Testimony of the same nature now comes from the land of Olives. *L'Italia Agricola*, in speaking of the cultivation of fruit trees, says that the cultivators of Mantua are in the habit of forming a colony of ants every spring time at the foot of each Olive tree, with the certainty that the tree will remain untouched by any other insects. The general opinion is that ants are enemies to fruit trees, but in Ratzeburg it has long since been proved that ants destroy larvæ and chrysalides, and that they only touch such fruit as has been picked by the birds.

— UNDER the heading of "a novelty indeed" the *Rural New Yorker* prints the following relative to a BLUE GLADIOLUS. "We were asked by a friend one day last week to call at the sale-rooms of Young & Elliott, of this city, to see a blue seedling Gladiolus. It was among an extensive collection of seedlings of this beautiful flower raised by Mr. C. L. Allen of Queens, L.I. Seeing that our friend was in earnest, which we doubted at first almost the same as if he had spoken of a blue Rose, we hastened to the place of exhibition. The individual flowers of the spike were rather large and well opened, and the colour of all the petals except the lower ones was a uniform greyish-blue or lavender, without streak or blotch. The lower ones were marked with a tongue of a deeper colour—a deep blue inclining to violet. The upper part of the spike alone was exhibited; the flowers of the other half, left upon the flowering stalk, had been pollinated in the hopes of securing seeds." What do the Messrs. Kelway think of this "pollenated" novelty?

— MR. H. J. ELWES, F.L.S., in his splendid Monograph on the Lily genus, notices as a curious fact "that all the AMERICAN LILIES, though varying remarkably among themselves, differ entirely in their bulb structure from those of Europe and Asia, and the same peculiarity is noticeable among the American species of Fritillaria (Crown Imperials), which, as far as we know them, have bulbs of small white and granular scales loosely attached to a solid central axis, from which the stem springs. Of all the Old World Lilies and Fritillarias only two (Lilium arenaceum and Fritillaria kamschatkensis) resemble their American congeners in the formation of their bulbs, and both of these are restricted in their geographical limits to the shores of north-eastern Asia, which have many affinities, both botanical and zoological, with the Pacific coast of North America."

WORK FOR THE WEEK.

KITCHEN GARDEN.

CHOOSE a dry day for giving the earliest crops of Celery a final earthing-up, well batting the sides of the banks of soil so as to exclude rain as much as possible. The work is much facilitated by tying the stalks together with matting just below the leaves, and not too tightly, or, what is better, use the "Wortley collar." In heavy wet soil sawdust is a good material for earthing with, and ashes also are good and not liked by either worms or slugs. The best material of all is cocoa-nut refuse, and is a capital dressing for heavy soil. The main and late crops should only have a moderate earthing as yet, a little soil placed around the base of the stalks doing much to prevent injury from winds. See to the tying-up of Cos Lettuce and Endive in favourable weather, completing the planting of the latest crops in pits or frames without delay. Have in readiness any spare lights or covers for placing over Lettuces or Endives coming on for use in case of sudden frosts. Cauliflowers coming in should have a few of the outer leaves broken over the heads to keep them in good colour, and as protection from heavy rains and sudden frosts. French Beans are often destroyed by a single night's frost, which may often be prevented by having at hand some protecting material to ward off if necessary the evil effects of one or two cold nights, thereby prolonging their bearing probably for some weeks longer. This crop, however, often suffers as much from prolonged cold and wet as anything else; therefore cover wherever practicable with a ground vinery, admitting air liberally, throwing mats over the lights in case of frost. Parsley in frames, or that in an open yet sheltered situation intended to be covered with frames, should now have the shelter of glass when necessary, removing all yellow or decayed leaves, and if the plants are at all crowded thin them well out. Some charcoal broken up rather small and sprinkled over the surface will be beneficial in arresting damp and mildew. The lights should remain off during all mild weather, and if it be necessary to employ them on account of frost at night remove them in the daytime. If no frames are available take up some of the strongest spring-sown plants, planting them in deep boxes or pots, standing in a shady position for a few days, subsequently removing them to a sheltered situation, and eventually placing

them in a vinery from which the Grapes are cut, for affording a supply in severe weather. Some of the August-sown Chervil, carefully lifted and planted in boxes or pots and treated similarly to the Parsley, will be found very useful in winter. Prick into handlights Cauliflower plants from the August sowing so soon as they can be handled, selecting the strongest. The situation should be a warm but open one, and if the soil be light take out a spade deep and replace it with rather strong turfy loam to insure sturdy growth. The plants must have full exposure, employing the lights only in case of frost. The smaller plants prick out in cold frames during the second week in October. Sow Radishes upon a warm border.

FRUIT HOUSES.

Vines.—Late Grapes ought now to be fully ripe; if, however, they are not apply fire heat until they are thoroughly ripened, there being more to fear from having them immature than over-ripe. Thin-skinned kinds of Grapes, as Hamburgs, will require frequent looking over for the removal of decayed berries. Damp being the cause of this evil expel it, or what is better prevent it by fire heat in the daytime with free ventilation, turning the heat on in the morning and off again in the afternoon, as a too warm atmosphere at night is undesirable. Vines that ripened the fruit at midsummer and afterwards will now probably have all or nearly all the fruit cut. If there is any doubt as to the condition of the wood as to ripeness, turn on the heat by day with abundant ventilation and off at night, not, however, reducing the ventilation. This will induce the Vines to ripen-off kindly, lateral growths being kept well pinched. Young or this year's planted Vines allowed to ramble will have formed strong canes and may have a part of the surplus growths removed, being careful not to damage the principal leaves—i.e., those at the base of the buds on the main rods, maintaining a warm dry atmosphere freely ventilated until the wood is brown and hard, then allow the Vines to go to rest. Vines in pots other than those intended for very early forcing should now have the wood brown and hard, and be placed against the south side of a wall or fence, but it is not desirable to allow the roots to be deluged with heavy rains. Lay the pots on their sides, or cover them with some material to throw off the wet.

Peaches and Nectarines.—The second early house will have the trees in an advanced state, the foliage turning yellow and falling. The border, if the roof lights are not moveable and have not been removed, must not be allowed to become too dry, but should be kept in a moist state. Syringing should be discontinued, but in the later houses with the foliage still fresh an occasional syringing will be necessary to free it of red spider. When the fruit is all gathered from the trees in the late houses the shoots should be thinned out where overcrowded, as well as those which have borne fruit, cutting them out to a successional shoot at the base. It will be desirable to turn the heat on by day if the wood be at all un-ripe, admitting air freely, but turning the heat off at night. The borders must not be neglected for water, as lack of that element would only tend to premature ripening and immature buds. In the latest houses of all, which are not nearly so frequent as they deserve, the late kinds will be ripening or ripe, and will be much better flavoured than that grown against open walls. In the case of dull cold weather a little fire heat will be necessary to ripen them thoroughly and afterwards to harden the wood, accompanied with abundance of air. Late Admirable, Stirling Castle, Walburton Admirable, Rackmackers, and Mr. Rivers's seedlings—Princess of Wales, Sea Eagle, Lord Palmerston, Radclyffe, Golden Eagle, and Osprey, to which must be added the Salwey, are all fine late sorts. Desse Tardive, though a good late Peach, is superseded by Radclyffe. These October Peaches are very valuable, the Salwey often not being ripe until late in the month.

Peach Trees in pots, which are desirable for affording very early fruit, should be repotted if it be required without further delay; but it is not desirable to do this unless the trees have been forced for some years, and have grown in size disproportionate to the size of the pots. The roots should be disentangled around the sides of the ball with an iron prong or fork, the drainage removed, and the surface soil picked out amongst the roots. If larger pots are required do not give a large shift, in no case larger than to admit of an inch or two of fresh soil around the reduced ball. In many cases the trees may be returned to the same size of pot. Provide efficient but not excessive drainage; ram the compost (turfy loam laid up for two or three months) to reduce the grass chopped up moderately small, adding a tenth part of old mortar rubbish and a fifteenth part of half-inch bones, all well incorporated; this should be pressed very firmly around the ball, leaving about an inch clear space for holding water. A good watering should then be given, the pots stood upon a hard bottom impervious to worms, placing ashes around the pots to their rim, and cover the surface of the pots 3 inches deep with litter or cocoa refuse. The situation should be an open but sheltered one, where they may remain until required for forcing. Trees only a year or two in pots will not require potting or interfering with at the roots, but should be stood outside, plunged as advised for those repotted after removing the old surface dressings, and applying a little fresh soil just to cover the roots. Some of the best for

this purpose are Early Beatrice, Early Alfred, Hales' Early, Early Grosse Mignonne, Merlin, Royal George, Grosse Mignonne, Violette Hative, and Noblesse. Of Nectarines Lord Napier, Stanwick Elruge, Elruge, and Violette Hative.

Melons.—Be careful in the application of water; but the last batch with the fruit swelling must not be allowed to become dry at the roots, keeping up moderate moisture by damping every morning and at closing time, earthing up the plants as required, removing all superfluous growths as they appear, maintaining a temperature of 70° to 65° at night, 70° to 75° by day, up to 85° or 90° with sun, keeping the bottom heat at about 80°. Fruit ripening will be the better of a little extra fire heat and a little air constantly; a dry state of the roots, but not so dry as to cause the leaves to flag, accelerates the ripening process. In dung-heated pits and frames no water will be required after this; keep the frames well lined, admitting a little air constantly, which with the fruit raised well above the surface of the bed will do much to impart flavour. Any fruit it is wished to keep for a time should be cut when changing with a good portion of stem and be kept in a dry airy room, or if wanted ripe at once they may be placed in a warm airy house in the full sun, and they ripen better than in frames or pits devoid of artificial warmth.

Cucumbers.—The autumn fruiterers must have careful attention, affording copious supplies of liquid manure, removing superfluous male blossoms and tendrils, avoiding overcropping, and not allowing the fruit to hang too long. The syringe should only be employed at closing time on bright afternoons. Earth-up the roots as the plants advance in growth from time to time. Pinch-out the growing point one or two joints beyond the fruit, going over the plants at least once a week for that purpose, retaining no more foliage than can be fully exposed to light. All waterings must be given at the same temperature as that of the roots. Pot off the winter fruiterers directly they are large enough to be handled, plunging the pots in bottom heat until the plants are established, then raise them near the glass, maintaining a temperature of 70° at night, 75° by day, with an advance from sun heat of 10° to 15°. The fermenting materials, if such are used for bottom heat, must be in preparation for the formation of the beds for this batch in due time. For producing a good supply of fruit in late January or early February seed should be sown at the beginning of next month. Plants in dung-heated frames or pits must have the linings renewed as required, the foliage kept rather thin, the Vines well stopped, and no more water should be given than to secure healthy moisture for the roots, placing mats over the lights on cold nights.

PLANT HOUSES.

Stove.—Amarylises like a long season of rest, both the deciduous and evergreen or Hippeastrum section; and though the former lose their leaves it is undesirable to gradually dry them off, it being as injurious to them to be allowed to become dust-dry as to those that retain the foliage in winter. The latter must not be allowed to become so dry when at rest as to cause the leaves to flag, or they will soon perish, dryness at the roots of either description of plants materially weakening the bulbs. They should be kept on shelves with the soil moderately moist. *Urcollina aurea* will be throwing up for bloom and must be kept moist, for though it blooms before the leaves the soil must not be allowed to become dry. The late *Achimenes* and *Gloxinias* should have positions near the glass and not overwatered, yet enough to keep the soil moist, or the flowers will be short-lived. Any that are becoming shabby should be placed in light situations and dry, with a little water occasionally until the tops go off. *Gesneras* of the zebra section and *Tydas* should have light airy situations, a rather warm temperature and moderate moisture, affording them weak liquid manure occasionally. *Eucharis* wanted to flower late should be kept rather dry in a temperature of 55° to 50°, a good growth having previously been made.

Aquatic plants are useful alike as objects of beauty, also affording flowers for cutting from. *Nymphaeas* *cærulea*, *cyanea*, *rubra*, *dentata*, and *Devoniana*, *Nelumbium speciosum*—are all capital for the base of stands in table decorations. *Limnorcharis Humboldtii*, *Pontederia crassipes*, *P. cordata*, *Pistia stratiotis*, and *Papyrus antiquorum*, the latter and *Nelumbium* being upright-growing. A tank of about 12 feet in diameter with a depth of about a foot of rather strong turfy loam will answer their requirements, with from a foot to 18 inches' depth of water. The *Nymphaeas* are best grown by themselves, as the upright growers require space. They require very little attention and are very interesting, flowering over a lengthened period.

Nepenthes are coming in for their share of attention, and no plants are more deserving. This is undoubtedly the best time to secure stock, as they suffer considerably in transit if removed during growth or in cold weather. The best description of house to grow them in is a low span, such as is employed for growing Cucumbers, for the practice of growing them at a distance from the glass and heavily shaded is now exploded. All they want is shade to prevent scorching, and the temperature, moisture, and ventilation of an ordinary stove; but are better grown by themselves, as in stoves they are often assigned positions unsuited to them. Given the same treatment as house-grown Cucumbers

they thrive well, or a brisk moist heat, and shade only to prevent scorching; the temperature in winter should be kept at 65°, *Nepenthes sanguinea* is one of the finest and rarest; *N. Veitchii*, *N. zeylanica rubra*, *N. Rafflesiana*, *N. Sedeni*, *N. Hookeriana*, *N. hybrida*, *N. Cheloni*, *N. intermedia*, *N. ampullaria vittata* major, *N. albo-marginata*, and *N. Courti* are the best. Fibrous peat, with a fourth of crocks or charcoal in pieces about the size of a hazel nut, about a sixth of silver sand, and a like proportion of chopped sphagnum, with good drainage, will grow them well. Spring is the proper time to pot, but if received now in very small pots a slight shift may be given now, suspending them near the glass, transferring to larger pots or baskets in the spring.

Lasiandra macrantha is one of the brightest purple-flowered of stove plants, but the plant is of straggling habit. Grown as a climber it is very fine. From the point of every shoot bunches of flowers are borne expanding successively for several weeks; for though the flowers last but a day their profusion and succession make up for their short duration. It does well in a cool stove. The dwarf variety, *floribunda*, is valuable for cutting in small pots.

Poinsettias should be placed in the stove, assigning them a light position with a temperature by artificial means of 65° to 60°, affording weak liquid manure liberally, and they will make a grand display. The weakest plants should be continued in a temperature of 55° at night, affording water only to preserve the lower leaves, for if overwatered the roots will perish and the bracts produced will be very poor. These plants will come in after the first batch, and though the heads may not be so large they are extremely useful for cutting, enduring much longer than those grown in more heat.

Euphorbia jacinthiflora should not be subjected to a lower temperature than 50°, better 55°, or the roots will perish, care being taken not to overwater, affording all the light practicable. *Monochaetums* also must not be kept too warm; 50° at night is, however, necessary, and in that they will flower for weeks, but in a higher temperature the flowers are of short duration. *Thysacanthus rutilans* requires a light position, and should have weak liquid manure. *Centropogon*, which must have plenty of light, and 55° min. temperature. *Sericographis Ghiesbreghtiana* must have all the light possible and a genial temperature, in which it will flower freely. *Plumbago coccinea superba* should have a portion of the plants placed in the coolest end of the stove with a view to a succession of bloom. Winter-flowering *Begonias* afford plenty of light, and feed with weak liquid manure. If any need repotting shift them into a size larger pot. Afford *Apheleas* positions near the glass; their fiery heads of bloom enliven a stove immensely. *Begonia manicata* keep rather dry in a temperature of 45°, returning the plants to the stove in about six weeks, when they will in due course afford a mass of pink blossoms of light appearance. *Ixoras* that have flowers yet to open must not be syringed overhead, or but seldom, or the flowers will drop without opening. *Allamandas*, *Bougainvilleas*, *Clerodendron Balfourianum*, and *Rondeletias* that have yet flowering parts in an advanced state should only have enough water to enable the flowers to open, which will not only secure the flowers for cutting but ripen the wood. *Dracenas* and *Palms* as yet in cool conservatories must be returned to the stove without delay, or they will if detained much longer lose their leaves when returned to warmth.

Stove Ferns are spoiled by too much heat, particularly is this the case during the winter season; 55° at night is ample by artificial means, which will necessitate less moisture and a lessened quantity at the roots, admitting air more freely. Dispense with shading, the light will improve the texture of the fronds.

TRADE CATALOGUES RECEIVED.

E. G. Henderson & Sons, Pine Apple Nursery, Maida Vale, London, W.—*Catalogue of Dutch Bulbs and other Flower Roots.*

Edmondson Brothers, 10, Dame Street, Dublin.—*Catalogue of Hyacinths and other Bulbs.*

William Rumsey, Joyning's Nurseries, Waltham Cross.—*Catalogue of Roses, Shrubs, Fruit Trees, &c.*

New Plant and Bulb Company, Colchester.—*List of Japanese and other Bulbs.*

James Yates, Royal Oak Mills, Stockport.—*Catalogue of Dutch and other Bulbs.*

Hogg & Robertson, 22, Mary Street, Dublin.—*Catalogue of Dutch and other Bulbs, Garden Requisites, &c.*

T. Carden, 3, Union Street, Leicester.—*Autumn List of Hyacinths and other Bulbs.*

W. Dobbie, 62, Preston Street, Faversham.—*List of Fuchsias and Geraniums.*

Robert Mack & Son, Catterick Bridge, Yorkshire.—*Catalogue of Select Roses.*

Samuel Yates, 16 and 18, Old Millgate, Manchester.—*Catalogue of Dutch and other Bulbs, List of Roses, &c.*

James Dickson & Sons, 108, Eastgate Street, Chester.—*Catalogue of Bulbous Flower Roots, &c.*

Richard Dean, Ealing.—*Catalogue of Bulbs.*

T. H. Hare, Sittingbourne, Kent.—*Special List of Tuberous Begonias.*

Kent & Brydon, Darlington.—*Catalogue of Flowering Bulbs.*

A. M. C. Jongkindt Coninck, Tottenham Nurseries, Dedems-vaart, Zwolle, Netherlands.—*List of Coniferae and Fruit Trees.*

Jules de Cock, Faubourg St. Liéven, Ghent.—*Trade Catalogue of Plants.*

Louis de Smet, Ledeborg-lez-Gand, Belgium.—*Supplementary Catalogue of Plants.*

Ellwanger & Barry, Mount Hope Nurseries, Rochester, New York.—*Descriptive Catalogue of Fruits.*

TO CORRESPONDENTS.

* * * All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

BOOKS (*Constant Reader*).—"British Ferns," by G. W. Johnson, by post 3s. 9d., and "Poultry Book for the Many," by post 7d., both published at this office.

"E. B." is desirous of obtaining a copy of the "Horticultural Directory for 1878," which is now out of print, for which he will pay full price. "E. B." should send his address.

BACK NUMBERS (*Seser*).—The back numbers you require can be supplied if you order them through your newsagent.

COCKSCOMB (*W. Craike*).—The head is a fine one, exceeding 2 feet across, and the colour is remarkably good. The comb, however, is irregular in outline, as those produced by fasciated stems frequently are.

ARRANGEMENT OF FLOWER BEDS (*F. M. D.*).—We should have the flower borders next the walk, so as to correspond with the border on the opposite side, in both cases having wide grass verges between the flowers and the walk, but the exact width can only be determined by the size of the lawn and the width of the flower border. Do not have the stand and Roses too high; 2 feet in height of clear Briar stem will be ample for the beds and their position.

VENTILATING GREENHOUSE (*W. T. Whalley Range*).—Slide ventilators fixed at the back of the house as you suggest will answer the required purpose, but more care is necessary in managing them during cold weather in early spring than in the case of ventilators in the roof.

DESTROYING THRIPS (*R. W. B.*).—All the leaves sent are much infested by thrips. The plants have been neglected—have probably been kept too dry, and have neither been syringed nor fumigated regularly. Frequent fumigations will destroy thrips, as also will a strong solution of soft soap and tobacco water, the plants being laid on their sides and syringed so that the insects, which are chiefly on the under sides of the leaves, may be reached by the solution; 2 ozs. of soft soap dissolved in a gallon of water, and half a pint of tobacco water added, will destroy thrips and will not injure the plants. Probably the insects are also preying on your Vines; if so you cannot expect to have good Grapes. Remove a portion of the surface soil from the border, just baring the roots, and replace with fresh loam, and topdress heavily with manure to induce roots near the surface, by which your Vines would be much benefited. Train the shoots thinly also, and keep the foliage clean.

PROPAGATING *ARALIA ELEGANTISSIMA* (—).—It is best grafted on *Aralia reticulata*, cuttings of which strike readily in about a month. They may be inserted at any time in bottom heat of about 85°, and top heat of 80°. Grafting may also be done at any time when the stocks are in free growth, keeping them in the same temperature as recommended for striking the cuttings. Both *A. Veitchii* and *A. elegantissima* are rather difficult to propagate by cuttings, and you had better not risk the loss of your plant by attempting that mode of propagation.

SELAGINELLAS IN THE POTS OF STOVE PLANTS (*Ivy*).—If the Selaginella is allowed to grow luxuriantly and permanently it will injure some stove plants, especially those intended for specimens, but is permissible in the pots of plants grown for table decorative purposes and plants generally that are only required in a small state. It is less injurious in the case of Orchids, but even then should be kept within reasonable bounds; it must not shade the pseudobulbs of the plants.

CHRYSANTHEMUMS (*F. P. W.*).—While the weather remains open your plants will be much benefited by remaining out of doors. We only place ours under glass on the appearance of frost at the time the flower buds are showing colour. Instead of allowing them to stand closely packed together we prefer to have them in single line along the side of a gravel walk. We choose such an exposed position in order to expedite the ripening of the wood, the want of which we think is the cause of your plants not being already in bud. We grow some hundreds, and all are now (September 23rd) disbudded, most of the buds being as large as peas. This is done by watching for the appearance of a terminal bud, around which are frequently three advancing buds or growths; these growths are removed, and the strength of the plant is thrown into the one flower bud that remains. If your plants have passed by that stage they will have made about three new growths on each branch, which will later on doubtless throw some very fine flowers, but in the majority of cases the flowers cannot be had as large and as full in the centre as if the centre bud which appeared between these growths had been left alone to perfect itself.

PLANTS FROM SAXONY (*A Seven-years Subscriber*).—If the plants are sent by post and the letter rate of postage is paid thereon the parcel will not be opened.

CACTUSES (*Idem*).—As a rule the plants are safe in minimum temperature of 40° during the winter, the soil being kept dry. In reply to your query No. 3 we advise you to write to Mr. Croucher, Sudbury House, Hammersmith, who will give you the desired information. We do not know of a book other than the one you name that is devoted to the culture of succulents.

PROPAGATING VIRGINIAN CREEPER (*S. H.*).—It is propagated by layers and cuttings; the latter mode would suit you as you require quantity. Take the ripe wood of the current year's growth, cut it into lengths of two joints, cutting transversely below the bottom eye, and insert firmly in rows about a foot apart with the cuttings 4 inches asunder, and so deep that the uppermost eye is only just clear of the soil. Sandy moderately rich soil is preferable, and a sheltered situation desirable.

HEATING GREENHOUSE (M. W.).—A stove is not a desirable mode of heating; the dry heat and the danger of the products of combustion escaping into the house are disadvantages often proving disastrous. Have a stove boiler fixed in a shed at the back of the house with a 3-inch flow and return pipe along one end and the front of the house. The boiler may be placed within the house, but there is a danger of an escape of smoke, &c., and dust consequent upon stoking. We cannot name any particular tradesman. Consult our advertising columns.

GRAPE CULTURE—LATE GRAPES (S. G. S.).—Thomson's "Treatise on the Cultivation of the Grape Vine." The best late Grapes are Lady Down's Seedling, Mrs. Pince, Black Alicante, Gros Guillaume (Barbarossa), West's St. Peter's, and Trebbiano.

PLANTS FOR DRAWING-ROOM DECORATION (Idem).—The most suitable are flowering plants having some scent, but not too powerful, interspersed with foliage plants. Forced plants are particularly acceptable; but you say nothing as to what are your means of production, consequently we are at a loss as to how to advise without giving the names of all plants that flower from October to March, which, with foliage plants, comprise half those in catalogues.

TRANSPLANTING ROSES BUDDED IN THE SUMMER (A Lover of Rose Shows).—The plants may be transplanted in November, planting them as deeply as they were before, not deeper, and they will start into growth very nearly as strongly as if they were allowed to remain in their present quarters. We prefer, however, to allow a season's growth to be made before transplanting to their permanent position.

MALT DUST.—"A Lover of Rose Shows" wishes to know if there is a malt kiln near London where he can obtain the "dust" that is recommended to be mixed with horse droppings to form a compost for dressing Roses, and how much a bushel he would have to pay for it.

TEA-SCENTED ROSES FOR WALL (Clericus).—It will not be necessary to have any ventilators for your glass projecting coping at the upper part of the wall, for those would frustrate the object of the glass projection. The lights need not be moveable. Besides Mâchael Niel, Safrano, Sombreuil, Niphotos, Belle Lyonnaise, Cheshunt Hybrid, and Souvenir d'Elise are suitable for your purpose.

STORING DAHLIA ROOTS (Idem).—We presume the plants were received by post and have been planted out. Take them up after the first frost, and after remaining a few days in a shed to dry, store them away in sand in a place safe from frost, but the cooler they are the better provided frost be excluded.

HEATING GREENHOUSE (O. G. R.).—The great objection to heating by a stove is the vapour given off, and the gases escaping not being favourable to plant life, while stoves heated by paraffin and other oils are generally expensive. Have a stove boiler, with two rows of 3-inch pipes along the front of the house, as advised for "M. W." in to-day's Journal. We have no experience of the boilers alluded to.

ABUTILON FLOWER BUDS FALLING OFF (C. N.).—It is a result of imperfect root-action, in most instances occasioned by the plants being root-bound or of a check given them by allowing them to become too dry. The remedy is to afford more liberal treatment—increased pot-room, or if that be undesirable, afford weak liquid manure. The plants should have a light airy position in a rather warm greenhouse if expected to flower in winter. We strike cuttings about June placed singly in 3-inch pots, shifting them into 6-inch pots in August, growing-on the plants in cold pits. The plants commence blooming in late September, affording a quantity of flowers through the winter in a temperature of 50° to 45°.

CACTUSES FLOWERING (Idem).—We presume they are Epiphyllums, now and onwards being their flowering season. They should be kept moist at the roots, but avoid overwatering them or the roots will perish.

ADIANTUMS (Idem).—It is usual for *A. cuneatum* and *A. fulvum* to lose a good portion of their fronds in winter when the plants are in a cool greenhouse. Keep them rather dry but not dust-dry, affording more water when they start into fresh growth, as they will do about March. In a stove temperature they are evergreen from fresh fronds being made keeping up the evergreen character, but the growth of such is poor as compared with plants that are afforded a season of rest.

MAKING ASPARAGUS BED (Old Subscriber).—The soil should be trenched 2½ to 3 feet deep, and manure be very liberally mixed in during the trenching. If the soil be light and open nothing more will be required, but if heavy it should have sand added and charred vegetable refuse, so as to bring it into a friable state. If very heavy take out the soil to the depth of 3 feet, rejecting all that is not in an ameliorated condition, which may not be more than the top spit, and mix with this an equal quantity of turfy light loam, vegetable soil or refuse at least half decayed, or leaf soil and well-decayed manure, the whole being thoroughly incorporated and a fifth part of sand added, and with this compost fill up the space intended to be planted a foot higher than the general ground level to allow for settling. Plant one or two-year-old plants in spring in beds 4 feet wide with 2 feet alleys between them, three rows to be in a bed and the plants 1 foot apart. If large heads are wanted plant in rows 3 feet apart, and the plants 18 inches asunder; or seed may be sown in April, thinning the plants to the above distances.

CROWN IMPERIALS NOT FLOWERING (Idem).—They are probably grown in a shady position, which will account for their not flowering, otherwise we should consider the plants had not attained sufficient strength. Without data we cannot advise.

DESTROYING "KECKS" (Idem).—No tap-rooted weeds can withstand the effects of sulphuric acid, not even "kecks." We apprehend the vitriol has not been applied in quantity proportionate to the size of the weeds, or not to their centres. Perhaps it is another generation or plants not previously acted upon that you are now troubled with. We never knew the vitriol fail, and know no other remedy but grubbing up the weeds.

PREPARING HOME-GROWN TOBACCO FOR FUMIGATION (A Young Gardener).—When the leaves have attained their full size and become of a yellow hue they are taken from the stalk, tied together in small bunches by the footstalks, hung in a dry airy room to dry, and left there until dry and crisp. The first damp weather after this the leaves will become soft, and they should be watched to ascertain when this occurs; then pack them in a box evenly with the butts or stalk-ends of the leaves all one way. They are then to be pressed moderately, and in a few days a slight fermentation will take place, when the bunches should be taken out and shaken to let the heat escape. When this has been done repack lightly. The leaves will not reheat, but it

is best to let them remain for a few days laid lightly in the box, and when all fermentation is over pack lightly in a barrel and keep in a dry place ready for use. As the leaves of British-grown Tobacco are not all mature at one time, they must be successively gathered as they ripen. The circumstance of the leaves not being all mature at one time has led to the adoption of another mode—viz., when the leaves have attained their full size pull the plants up, tie them two or three together, and hang them, root upwards, in a dry warm room, if with a temperature of 90° all the better. When dry sprinkle them with water, and then hang up again to dry. Allow them to become dry again, and then wet them again; dry afterwards, and let this wetting and drying be done thrice. When the leaves become dry, but not so as to break, strip them from the stalks and lay them in boxes evenly, and quite close and tight, pressing for that purpose, then keep in a dry room. This latter process gives the leaves a colour which they will not possess if treated according to the first plan. Leaves prepared in this way will be green, while those treated according to the first mode will be of a pale brown and be fit for smoking. Leaves prepared in both ways are alike useful for fumigating for green fly, thrips, &c., and equally as effective as foreign Tobacco. Previous to use the Tobacco should be chopped like hay and straw or made into rough shag.

DESCRIPTIONS OF PLUMS (C. W. M.).—Coe's Golden Drop.—Fruit very large, being generally about 2½ inches long and 2 inches in diameter, of an oval shape, with a short beak at the stalk, marked by a deep suture extending the whole length of the fruit; skin pale yellow, marked with a number of dark red spots; stalk about an inch long, stout, and attached without depression; flesh yellowish red, sugary, and delicious, adhering closely to the stone. Jefferson.—Fruit large, oval, narrowing a little towards the stalk, and marked with a very faint suture; skin greenish yellow, becoming of a rich golden yellow, flushed with red on the side next the sun, and dotted with red dots; stalk an inch long, thin, and inserted in a shallow cavity; flesh yellow, firm, and juicy, rich, sugary, and delicious, separating from the stone.

POTTING LILYUMS (Surrey Amateur).—Pot them immediately after the flower stalks become yellow, and instead of taking the bulbs entirely out of the soil, turn the plants out with the ball entire. Remove the surface soil down to the crown of the roots, and cut the stalk or stems off at that point. Next remove the drainage and any soil that comes away easily. Clean the pot inside and replace the drainage with an inch of the rougher parts of the compost over it, then a little compost, then the roots, working the soil carefully around them, and cover the crowns about an inch deep. If the work be done well the pot will be about three-parts full; the remaining space should be filled with compost when the shoots are sufficiently high for the purpose. Give a gentle watering after potting. We use a compost of two-thirds turfy loam a year old from decayed turves cut 3 inches thick, and one-third leaf soil or turfy sandy peat, with a free admixture of sand.

LAMP OIL FOR A SMALL GREENHOUSE (W. H. Summers).—Petroleum will suit your purpose.

NAMES OF FRUITS (Mr. Killick).—Court of Wick. (W. B.).—1, Courpendu-Plât; 2, Gravenstein. (R. C.).—Robinson's Pippin. We are doubtful if you can procure "our York" from the beginning unbound. (S. N.).—2, Barton's Freebearer; 5, Yorkshire Greening; 6, Alfriston; 9, Hollandbury; 10, Selwood's Reinette. Pear Baronne de Mello. (F. McLennan).—1, Hawthornden; 2, Cockpit; 3, Keswick Codlin; 4, Blenheim Pippin. (Croydon).—We are sorry to say we cannot assist you. You had better have some trees grafted from your present one. It is the surest way of securing the true variety. (W. H. W.).—Pears: 1, Bad specimen; 2, Beurré Capiaumont; 3, Calabasse; 5, Williams' Bon Chrétien. Apples: 1, Scarlet Nonpareil; 2, Hawthornden; 3, Sam Young. We never name more than six fruits. (W. Henry Ashwin).—1, Beurré d'Amaulis; 2, Duchesse d'Orléans.

NAMES OF PLANTS (Mrs. H.).—The larger-flowered Fuchsia is corallina, and the smaller is, we think, an inferior variety of it. The Oxalis is *O. Deppei*. (Mrs. Poole).—*Saponaria officinalis*. (J. W. S.).—*Balsamina hortensis*. (Southland).—*Pyrus intermedia*. (Young Botanist).—1, *Nolana prostrata*; 2, *Buddleia globosa*; 3, *Tamarix gallica*; 4, *Santolina Chamaecyparissus*. (Mrs. B. Brandon).—*Crataegus Crus-galli ovalifolia*, native of North America. (Ramalho).—*Adiantum amabile*. If you examine it carefully you will find that the indusium is connected with the margin of the pinna. (A. W. B.).—The numbers on your plants were displaced in transit. The herbaceous plant is *Convolvulus mauritanicus*. The Maidenhair is *Adiantum trapeziforme*. The other Fern we cannot determine; it has no spores. (Warwick Subscriber).—1, *Alonsoa incisifolia*; 2 has no flowers; 3, *Artemisia vulgaris*. (Manchester).—1, *Rivinia humilis*; 2, *Aucuba japonica*; var.; 3, *Tradescantia zebrina*; 4 is a *Platyloma*, and 5 a *Pteris*; but as the fronds have no spores we cannot determine the species. (W. H. F. B.).—No. 1, *Mirabilis Jalapa*, belongs to *Pentandria Monogynia* of Linnaeus; No. 4, *Geum rivale*, belongs to *Icosandria Polygynia*.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

THE CULTIVATION OF WHEAT.

(Continued from page 233.)

WE will now refer to the cultivation of wheat upon loamy soils. As these are various we must name those which require at present particular notice, such as sandy loam on brick earth, hazel loam on gravel, grey loam on chalk, and the dark or peaty loams of the fen districts, as well as some red loams of the western counties. Assuming that upon nearly all these soils the land is dry enough for wheat, we consider that the natural power and fertility of much of the above-named loams will justify a departure from the Norfolk or four-course rotation, especially when the land is highly manured, in order that a better return may be made by the sale of crops and stock than the simple four-course usually affords. These soils are for the most part subject to couch or running

grass, which will necessitate something approaching the four-course system, in order that the land may be cleaned by a fallow crop such as mangold and other roots. In this case a considerable portion of the land may be sown with wheat which in the ordinary four-course would be sown with Lent corn, either barley or oats. According to our experience the yield of corn does not so much depend upon the distance of time between the crops of wheat as it does upon judicious management and preparation of the land. We have found with but few exceptions that when the seed has been put in under favourable circumstances, and the ground good enough to produce a full crop of straw, that the produce of corn depends upon the season. In hot dry summers we usually obtain a good yield, and in a cold wet season the reverse. We have, however, noticed sometimes, that although the grain has been abundant the weight of it has been deficient perhaps about 2 lbs. per bushel. In some cases we have known the same field of good hazel loam cultivated or rather cropped with potatoes and wheat alternately for a number of years, and that whenever the season was favourable large crops of wheat—as much as fifty-two bushels per acre, have been grown. When we have cropped the land thus the potatoes received a liberal dressing of guano, and the same of yard or town dung was applied to the wheat crop.

We must now allude to a mode of cropping called the three-course rotation, and when the land is clear it is adopted with great advantage, particularly where the soil is a little too flat and heavy for the winter folding of sheep whilst eating roots—viz., first, wheat out of clover lea; second, barley or oats according to climate; third, clover mown twice for hay or seed. This plan, by judicious cultivation, will pay more rent and leave more profit than the four-course system. But although this plan may be carried out on the home farm, yet on many farms the occupier would be debarred by the conditions of his lease. It may be said that this system will keep but little stock; but upon the home farm where there is a good portion of meadow or park lands these will keep the stock principally in the summer months, and upon a portion of the clover lain good roots may be grown after one cutting of clover, and good stubble turnips after the wheat, where the climate is favourable.

We will next speak of the cultivation for wheat after clover. If any portion is broken up for roots the cultivation for it will be referred to further on under the head of Light Land Culture. Upon good loamy land the early ploughing and pressing is of great consequence, because in these soils, which often vary in the same field, it is very necessary that the land be allowed to lie and become mellow before sowing, and at the same time it becomes consolidated, so essential to the well-doing of the wheat plant. It is on the lea that the dung should be laid out and ploughed in. Let us, however, guard against the couch and water grass as much as possible, and if it is found on the clover lea by no means to attempt a late or what is commonly termed a bastard fallow, this being the worst preparation for wheat on these soils which we know of. We prefer to scarify very shallow and clear away the grass, and then to lay out manure, plough, and press the land; this will give all the advantages of the clover lea without making the land hollow and unkind for wheat. Upon these soils the roots of clover make a capital manure for wheat, and it is better that the clover be cut twice or even cut for seed because of the great increase of the substance of the roots of clover. We have repeatedly seen the difference in the wheat crop, where two cuttings as compared with once cut and then fed off with sheep, the former proving the best preparation for wheat, although the sheep may be folded upon the land whilst eating off the clover.

The time of sowing wheat upon these soils, although it may have been early ploughed, should be deferred until about the middle of the month of October; and the quantity of seed should not be less than two bushels and a half per acre, as the wireworms are more likely to attack the plant than upon a fallow preparation. It is also important that the wheat should be prepared and steeped to prevent smut. It is not sufficient that the seed sample gives no evidence of smut, because the smut balls may have passed away in the act of winnowing, threshing, &c., but the ears often contain smut balls and sound corn also. The sound corns are, however, sure to produce smut the following season unless some method is adopted to kill the disease in the corn. Some use vitriol (sulphate of copper) commonly called bluestone vitriol, but the best way and least trouble is to use a composition sold for the purpose and called Down's Farmer's Friend. Upon loamy soils, if not much given to weeds, the wheat may be drilled at 7 inches; otherwise it may be drilled at 9 inches between the rows, so that it may be hand or horse-hoed in the spring. We, however, seldom find that wheat sown out of clover lea is infested with annual weeds.

The sorts of wheat selected for seed should be adapted to the climate, white varieties being good for the eastern and southern counties, and red sorts for the midland and western districts. When the land is highly manured and a heavy crop is expected any short-strawed variety is best, the Rough-chaff Essex being the best, quantity and quality considered. Schooley's Square Head is also a good sort. These, together with Golden Drop and Nursery, also with some other sorts having local name and origin,

when selected by Pedigree, make up a sufficient choice for growth upon the home farm. The seed, however, should always be grown upon an inferior soil, and the judgment of the farm manager will always be required to take notice of the sorts which best suit the soil.

(To be continued.)

WORK ON THE HOME FARM.

Horse Labour still consists of ploughing and working the land for rye, winter vetches, &c. Upon all those farms where the land is at all foul with couch grass autumn cultivation should be carried on upon the land intended for roots next year by scarifying or rafter-ploughing, and upon all dry loamy, or light gravel and sandy soils, this work may be continued in fine weather until the commencement of the autumn rains, and then it will be time to begin laying out manure, and preparing by ploughing and pressing the land intended for wheat; the latter work, however, may also be done at intervals of weather unfavourable to autumn tillage of the stubbles. Upon farms in certain districts it is necessary in the interest both of landlord and tenant, and especially on the home farm, that any land requiring chalk should have an application immediately it is ascertained to be requisite. There are many kinds of weeds the growth and prevalence of which indicate the absence of chalk more or less. The autumn part of the year whilst the roads are firm is the best time for carting chalk. The horses belonging to the home farm, where the horse power is judiciously apportioned, will, however, not be able to accomplish such extra work as carting chalk. We have on various estates with which we have been connected found it best to hire for this work, which is not only very laborious for the men and horses, but is very wearing to the harness and carts employed. We have found it in consequence answer a good purpose to arrange with the hirecarters of the district to deliver the chalk on the farm at any time during the summer, to be made up into heap and subject to measure. A cube yard weighs from 18 cwt. to 1 ton. The cost of cartage per cube yard will vary according to the distance from the pit; but the hirecarters will accept a contract on easier terms if they have early notice of the quantities required, and are allowed to work at it so as to fill up any leisure time they may have in their hiring business. The horses employed on the farm may then lay out the chalk from heap when most convenient, from 18 to 20 tons per acre being a sufficient quantity upon soils in general. The odd horse will have full employment in various ways. It will be necessary to see that the rick yard is made clean and tidy by the removal of all litter after thatching and trimming the ricks; this will afford some bedding for the pigsties. The late-sown vetches and oats or the late-sown trifolium will now be very valuable for the horses, the cattle, and pigs, and will be required for use daily, and should be brought to the homestead by the odd horse or horses.

Hand Labour will now be employed in various ways—tending the threshing machine, making up and thatching the straw and fodder ricks, and spreading dung on the clover leas. The home farm manager will do well now to look at all the fences and have them properly trimmed, and the ditches cut out free from the coarse grasses, &c., which grow upon the sides. Particularly examine ditches and watercourses where it is known that tile drains have their outlets, so that the water may have no obstruction when the early autumn rains begin. As fast as the corn is thrashed have the ricks of straw and fodder properly stacked, and the roofs of the stacks raked down hard with the thatcher's rake. In the case of wheat straw for general use the roofs will then only require thatching halfway down; but it is different with barley or oat straw, or pea haulm required for fodder, for these should be put together in good shape in the rick, and be as carefully thatched as a rick of hay. Straw is now so dear that the same care in ricking and thatching should be observed with all that portion intended for sale. The mangold crops are in some cases very foul, and as fast as the last hoeing is done women should pick up the couch grass and weeds. The same observation will apply perhaps to Swedish and common turnips. The hoes have killed but few weeds this year on account of continuous rains. When cabbages are required for the early spring they should now be set out, and if the field is much exposed it is well to have the land stretched or baulked at 2 feet apart, and set the plants in the furrow between the stretches, guano being strewn along by hand. In case of snow in the winter the plants will then be covered, which will protect them against depredation by larks, wood pigeons, game, &c., and being in the furrow, if the soil is dry, will do well and be sheltered to some extent from cold winds, and in the spring the plants will be well healed up in the act of interculture. This is now a good time to purchase a stock of breeding ewes, and particularly in the home counties, within sixty or seventy miles of the metropolis, where the horned Dorset ewes are kept for making early lambs for the metropolitan market, some of which will be required at Christmas. These ewes are brought in large numbers to the fairs held at Weyhill and Apple-shaw in Hampshire, buyers from various counties attending as purchasers. These ewes are very pretty and ornamental stock on the park lands from the middle of October until the middle of

November, at which time they have many young lambs with them. This kind of sheep usually give a large number of twin lambs, and they not only furnish one of the prettiest objects on the park lands, but are very profitable upon the home farm if judiciously managed. The shepherds must now be vigilant, and all those sheep which may have been recently shorn should now be dipped or leared with powder to secure them against the attack of the blow flies, if it has not already been done, for the hot close weather lately prevailing has been much in favour of the fly damaging the sheeps' fleece. The purchasing of sheep, both of ewes and dry sheep for winter keeping, will still be going on. We recommend where it can be done to purchase of the breeder, so that the sheep can travel direct to the place where they are required, in order to avoid the lameness which they so often pick up at the fairs. The ewes which have the rams running with them still require attention in the daily change of food, so that they may be induced to bring their lambs well together. Dairy cows should now be purchased when a good supply of milk is required during the winter months, but we do not like to purchase them in the metropolitan market. When we require a nice lot of the Yorkshire Shorthorns we prefer giving a commission to those engaged in supplying the London dairies with the best stock, instead of taking animals direct from the metropolitan market, because whilst there the animals often take by infection foot and mouth disease, and sometimes pleura. In case of ordering them of a dealer they are sent by railway to any part of the country direct, in which case they usually arrive healthy and in fine condition; for be it remembered that many of the finest cows on sale in the kingdom are obtainable by the dealers who supply the London market and the suburban dairies. When it is desired to rear the calves the dealer will send you cows with heifer calves if the order is given in that way. We know cows frequently obtained in that way which are very beautiful and also great milkers, and have given much satisfaction upon the pasture farms where they have been kept. The stock of horned cattle for winter feeding and fattening upon roots in the stalls or boxes should also be purchased now. If Hereford steers are wanted, Hereford October fair is a good one for purchasers; if shorthorned cattle are required, there are many fairs in the midland counties where the best blood can be obtained. Many Irish yearlings and calves are now sent over; but although they are much better than they used to be, still the buyer should select the best animals out of a herd and pay more money for them, as the best are always the cheapest. These will do very well for wintering as stock animals, but for fattening in the boxes the two-years-off cattle are the best, and we have often picked up half-fat bullocks at markets which have paid well for winter feeding.

VARIETIES.

THE following is from the *Oxford Times*—"The members of our Poultry and Pigeon Society have reason to be disappointed with the result of the special meeting of the Town Council, held last Thursday morning, to receive the memorial of 1500 ratepayers to the Mayor and Corporation requesting a reconsideration of their refusal to grant the use of the Town Hall, as well as the use of the Corn Exchange and Yard already granted, for the annual Show. The cause of the disappointment seems to be attributed to four absent councillors, three of whom signed the memorial and promised to attend the meeting to support it with their votes, and the other, though refusing his signature, promised to vote for it. Had these gentlemen redeemed their promises there must have been a majority instead of a minority of two in favour of the memorial. Hence the bitterness of the disappointment. The Show Committee argue with much reason, that in order to maintain the high standard and extent of the Society's annual exhibition they cannot reduce their schedule to the proportions necessary for the accommodation afforded without the Town Hall. Last year the Corn Exchange was crowded to its utmost capacity with six hundred fowl pens, two-thirds of the Town Hall yard were occupied with two hundred large pens of Geese and Ducks, and the Town Hall itself accommodated 1100 pens of Pigeons, &c., many of them birds of too great a value to be exposed to the inclemency of the Town Hall yard. Alderman Carr contends that there is a greater space in the yard than in the Hall. However that may be, one thing is certain, that the quality of the accommodation must be in favour of the Hall." Owing to the strong feeling that has been evinced by the inhabitants, the Town Council has since reversed the decision refusing the use of the Town Hall to the Poultry and Pigeon Show Committee by a large majority.

A SURREY COLUMBARIAN SOCIETY is in process of formation; a preliminary meeting of fanciers was held at Guildford on the 18th inst. to consider the matter, and it is intended to hold a public meeting on October 10th for the adoption of a code of rules.

MR. F. JONES of Greddington, near Kettering, writes—"I have a hen which has been laying since the 28th of January, never missing above one day and that occasionally. She has laid to-day

her two-hundredth egg, including four large ones the size of a Duck's. As I think this very remarkable, I should feel obliged if you would state the above in the *Journal of Horticulture*."

THE Waterford Poultry Show was held in connection with the Farming Society on the 12th inst., when the following prizes were awarded:—

COCHINS.—1, Miss M. Barron. 2, C. N. Bolton. DORRINGS.—1, Miss M. Barron. 2, C. N. Bolton. HAMBURGS.—1 and 2, Lady Lloyd. BRAHMAS.—1, R. A. Chearnley. 2, Miss M. Barron. ANY BREED.—1, Miss M. Barron. 2, R. A. Chearnley. DUCKS.—*Aylesbury*.—Prize, Miss M. Barron. *Rouen*.—1, Miss M. Barron. 2, C. N. Bolton. SELLING CLASS.—1 and 2, Miss M. Barron. ANY PURE BREED.—1, Miss M. Barron. 2, C. N. Bolton. *etc.*, Lady Lloyd, C. N. Bolton. GESE.—1, T. Kennedy. 2, J. H. Jones. TURKEYS.—1, J. H. Jones. 2, C. N. Bolton.

ACREAGE REQUIRED FOR A COW.—An American paper writes as follows upon this subject:—"This question depends for an answer so much on the circumstances of the soil as not to admit of a very definite answer. In a dairy competition in Jefferson county, N.Y., in 1857, the first-prize dairy, of sixteen cows, was kept on thirty acres of land; the second premium dairy, of eighteen cows, on sixty acres; the third dairy, of thirteen cows, on thirty acres; the fourth, of twenty-nine cows, on fifty-five acres; the fifth, of twenty-eight cows, on ninety acres. Mr. Schull, of Little Falls, N.Y., estimates that the land in pasture and hay requisite for the support of a cow is three acres; and this is the estimate of Mr. Carrington for moderately good dairy farms in England. In Belgium ten acres of land support two cows, one heifer, and one yearling or calf; but when the calves are sold off young, and cows in full milk are only kept, the proportion is two cows to seven and one-half acres. Colman estimates three acres of pasture as requisite for a cow in Berkshire County, Mass., while in some towns two acres of pasture are sufficient. Mr. Farrington, in the report of the American Dairyman's Association, thinks that on the average four acres are required per cow for summer and winter keep; while Mr. X. A. Willard thinks that in Herkimer county, N.Y., one and one-half to two acres of pasture per cow will answer, and in some exceptional cases one acre."

ACCOUNTS received from all parts of Ireland represent the harvest as a good one, and generally well secured. The yield of the cereal crops in the northern provinces is a fair average, and although in some parts of Leinster there is a lighter wheat and barley crop in the better corn-growing districts than was anticipated, it is much above the result of last year. The green crops are exceptionally good, and no further grave complaints are heard as to the potatoes. There never has been a finer hay harvest. For cattle there will be ample winter feeding, and the number and value of stock will consequently increase. A month's fine weather will be of great advantage to the country. The break in the weather a few days ago appears to have been but temporary, and no great mischief can be traced to it. The health of Irish cattle is much improved, and the demands upon the public purse for animals slaughtered have greatly declined.

COMB FOUNDATIONS.—"A. E. C." writes:—"Having seen in the *Journal of Horticulture* for September 5th an article from Mr. Arthur Todd, Algeria, in which he mentions that the American comb foundation can be obtained at 2s. per lb., I shall be much obliged if any of your correspondents can tell me where I could obtain the foundation at that price, or if anyone who is getting it from America would let me join them for a small quantity."

A WRITER in an Australian paper states that in many districts the leaves of the celery are highly esteemed as food for milch cows, and are often preferred to red clover. The cows are said to eat them most greedily, and to yield on this food a far sweeter and richer milk than on any other. Sometimes the leaves are cut up small, scalded with hot water, and given as a mash mixed with bran, and sometimes they are fed whole in their natural state along with the other ordinary food.

APIARIAN JOTTINGS.

It would be tiresome to go through the various operations among my bees which have taken place this autumn. Suffice it to say that without plundering to the full, as I had intended, every stock in my apiary, some of which circumstances have obliged me to leave untouched, I have harvested over a hundred-weight of honey of excellent quality, with which I am well content. This is very good for our poor country, with its limited supply of apple and bean blossoms and its one staple of clover honey, exposed as it is to the blast of every wind, which has free liberty of range in a thinly planted plain.

I must, however, say a few words relative to the Woodbury-Phillips bar-framed hive, into which I put a moderate-sized swarm on the 13th of June. On my return home in the middle of August I found thirteen out of the sixteen frames occupied with comb, many of them weighty with honey and brood. We took out most of the frames, cut away several pounds of honey-comb, and re-arranged the hive, correcting irregularities in the comb. This is now a very strong stock, with an excellent first-cross queen hatched last year. Before winter it will have a careful overhaul previous to its contraction to eight bar frames. The

empty spaces right and left of the contracted centre will be filled with shavings after the dummy slides have been slipped into their grooves.

Next year will afford the opportunity of fully testing this hive. As it is, I am so well pleased with it that I shall construct two more this winter on the same principle and of the same size. And to insure as far as possible its success as a non-swarming hive I purpose to construct a nadir hive to go under the floorboard, thus affording the bees all possible space above (by super) and below, as well as on the two wings of their central breeding home. The floorboard will be perforated with long and narrow slits, so narrow as to exclude both queen and drones. It will be in use during the summer months only, being replaced by an ordinary floorboard the greater part of the year. Before quitting the subject of this hive I must express a hope that Mr. Phillips will kindly tell me whether he is as pleased with his hive and has been as successful with it as he was last year. Perhaps, too, some other of your apiarian readers has made trial of it; if so, we should like to know how it has fared with him.

Talking of strong hives, here is everything calculated to promote strength. Has Mr. Pettigrew anything to say against it, barring his dislike of bar-framed hives? Large and roomy, with powers of expansion and contraction integral to the hive itself, and super or nadir space above and below, affording space for *ad libitum* management, whether on the swarming or non-swarming principle, methinks this hive meets all needs and embodies the perfection of a bee domicile. There is, of course, the one crucial difference between straw and wood; but the experience of forty years has convinced me that bees thrive as well in one as in the other.—B. & W.

THE STEWARTON SYSTEM.

SOME remarks of Mr. Pettigrew on pages 215 and 216 call for comment. The Stewarton hive has been adopted in Ayrshire for a much longer period than twenty years, having been in operation there since 1819, or nearly seventy years. From the beauty of the octagon supers exhibited last month at the Caledonian Apiarian Society's Exhibition at Dumfries, and this month at their Glasgow Show, we must have better authority that the Ayrshire fraternity have abandoned their pet hive and been converted into skepists.

That straw hives "have been refused admission to a Crystal Palace Bee Show," is to me new and somewhat startling. It is to be hoped the Hon. Sec. of the British Bee-keeper's Association may do something to remove this blot from their escutcheon.

Straw skeps, big as well as little, I readily grant never will cease out of the land as long as bee-keepers are ignorant of better; but my stipulation was "enlightened apiarians." With those the day of skeps, like that of the monster super, is over. These last, 4 inches deep, contain fully 20 lbs. while the 3½ octagon super which is abundantly large for home use or for the market, contains 15 lbs. Some of my Stewarton colonies are made to carry for variety, tier upon tier, little sectionals at times. Whatever description of hive is employed, the advanced bee-master to have his bees thoroughly in command must have their combs moveable, and it cannot be called in question that from the super or separate compartmental arrangement the purest and finest honeycomb is obtained free from all pollen, brood, or other impurity, and in the north, as I have already abundantly proved, sells, as it deserves, at a proportionally higher rate. The consumers of Wrexham may have no choice, but must purchase it as they can get it run into jars.

So far as reports have yet gone the season has been more favourable north than south, hence Mr. Pettigrew quotes Mr. Briscoe's smaller harvest of 56 lbs., and ignores the Renfrewshire parish clergyman's of 92½ and 88 lbs. super honey from a single hive; and in his comparison of my good harvest of 1868 it must be borne in mind that it was almost exclusively pure flower honey in super and nett weight, whereas what he pits against it was gross weight of a straw hive 328 lbs. including a huge skep well stored with thick broodcombs, brood pollen, and bees, and may we add board to boot? as part of the gross, and in Lanarkshire with vast tracks of heath to continue the season. Had my colony been transferred thither on the close of the flower honey harvest what a very different result might have been obtained. Fair comparisons, hives, bees, or systems of management can only be obtained from their being placed side by side in one and the same district.

Three weeks ago, in company with a keen apiarian, I paid a visit to a friend who possessed a valuable stock of bees, all in boxes excepting two large eked straw hives stocked by numerous odd swarms. When his boxes became exhausted in summer he was desirous to be put in possession of their store, and I cheerfully offered to lend a helping hand. After moving them from the stance we had but few of the bees driven, when the Italian section of the apiary were down upon us robbing as well as stinging badly, causing us to shift camp again and again; but there was no eluding them. We failed to see her majesty ascend and were forced to break up the skep to find her. Drawing the cross-sticks caused much breakage and more thieving, and though a med with

a couple of good honey knives there was no such thing as removing the deep combs entire. Our fingers and thumbs would sink into the warm soft pulpy mass. One basin after another of cold water was brought to clean and cool our hands, but the thick weighty cakes would give way, while with honey-dragged feathers we swept the poor clogged bees from the plates. We pitted the honey-smear brood, and still more the poor half-drowned queen fished out of a pool of honey in a corner of the crown. We three, accustomed to find her majesty at pleasure on frames and reaping large harvests of super honey without soiling a finger, then sweltering in the honied mess, were tickled by our host putting the question, Does Mr. Pettigrew really style this sort of thing advanced bee-keeping? We fixed the soft broodcombs of both skeps as best we could into frames of Stewartons, then introduced the respective queens and workers in inaugurating a new and better state of things.—A RENFREWSHIRE BEE-KEEPER.

OUR LETTER BOX.

DYING DURING TRANSIT (F. P. E.).—A bird or animal booked, and then in perfect health, dying during transit is a loss to the purchaser, unless it was not sent by the conveyance he directed it to be sent by.

DYING FEATHERS (A. Z.).—White feathers can be bleached, but we know of no mode by which coloured feathers can be rendered white.

BOOKS (E. C. H.).—Graham's "Domestic Medicine" is preferable.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.					
	Baromet. at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Air at 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
18th. Sept.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 18	29.665	61.5	60.7	S.W.	58.2	63.3	59.4	98.8	55.7	0.063
Th. 19	29.630	53.9	49.3	W.	56.3	63.3	44.2	105.9	40.5	0.055
Fri. 20	29.673	53.2	49.7	N.W.	56.0	59.9	44.0	105.1	40.7	0.012
Sat. 21	29.193	50.2	47.9	W.	54.9	62.3	39.0	104.2	35.3	—
Sun. 22	29.17	53.4	51.0	S.	55.4	59.0	44.8	71.8	39.6	0.070
Mo. 23	29.494	51.1	48.1	W.	54.3	61.3	45.0	101.4	38.3	—
Tu. 24	29.636	46.6	45.6	S.W.	53.6	62.1	37.7	100.2	34.9	—
Means	29.823	52.8	50.5		55.6	61.6	44.9	98.2	40.9	0.200

REMARKS.

- 18th.—Wet and windy morning; fine and sunny afterwards; evening.
 19th.—Very fine bright morning, shower at 0.10 P.M.; fine and bright afterwards; starlight evening.
 20th.—Bright sunny morning; cloudy in middle of day, shower at 2.30 P.M.; fine afternoon; bright starlight night.
 21st.—Fine autumnal day; misty evening.
 22nd.—Misty morning, dull and cloudy all day, slight shower at 0.40 P.M.; wet evening.
 23rd.—Fine pleasant day; bright starlight night.
 24th.—Foggy in early morning, bright and sunny from 10 A.M. till 3 P.M.; fair but dull afterwards, and cool.

Although the prevalent wind has been westerly the temperature has fallen considerably, and one or two mornings have been almost frosty.—G. J. SYMONS.

COVENT GARDEN MARKET.—SEPTEMBER 25.

TRADE is very quiet, Pears being the only fruit in good demand, the crops on the Continent being short and consisting only of Duchesse d'Angoulême. Kent Cobs are lower.

FRUIT.

		s.	d.	s.	d.			s.	d.	s.	d.
Apples.....	½ sieve	2	0	4	0	Melons	each	1	0	4	0
Apricots.....	dozen	0	0	0	0	Nectarines ..	dozen	0	0	0	0
Chestnuts.....	bushel	0	0	0	0	Oranges.....	£ 100	8	0	16	0
Figs.....	dozen	1	0	3	0	Peaches.....	dozen	8	0	12	0
Filberts.....	£ lb.	0	8	1	0	Pears, kitchen..	dozen	0	0	0	0
Cobs.....	£ lb.	0	8	1	0	dessert.....	dozen	2	0	6	0
Grapes, hothouse	£ lb.	0	9	6	0	Pine Apples ..	£ lb.	3	0	6	0
Lemons.....	£ 100	6	0	18	0	Walnuts.....	bushel	5	0	8	0

VEGETABLES.

		s.	d.	s.	d.			s.	d.	s.	d.
Artichokes.....	dozen	2	0	4	0	Mushrooms.....	pottle	1	6	2	0
Asparagus.....	bundle	0	0	0	0	Mustard & Cress	punnet	0	2	0	4
Beans, Kidney ..	£ lb	0	3	0	6	Onions.....	bushel	2	6	3	0
Beet, Red.....	dozen	1	6	3	0	pickling.....	quart	0	4	0	6
Broccoli.....	bundle	0	9	1	6	Parsley..... doz.	bunches	2	0	0	0
Brussels Sprouts	½ sieve	0	0	0	0	Parsnips.....	dozen	0	0	0	6
Cabbage.....	dozen	1	0	2	0	Peas.....	quart	0	9	1	0
Carrots.....	bunch	0	4	0	8	Potatoes.....	bushel	3	6	7	0
Capiciums.....	£ 100	1	6	2	0	Kidney.....	bushel	5	0	7	0
Caulitowers.....	dozen	3	0	6	0	Radishes.....	doz. bunches	0	1	6	0
Celery.....	bundle	1	6	2	0	Rhubarb.....	bundle	0	0	0	0
Colewort., doz.	bunches	2	0	4	0	Salsify.....	bundle	0	9	1	0
Cucumbers.....	each	4	1	0	0	Scorzonera ..	bundle	1	0	0	0
Endive.....	dozen	1	0	2	0	Seakale.....	basket	0	0	0	0
Fennel.....	bunch	0	3	0	0	Shallots.....	£ lb	0	3	0	0
Garlic.....	£ lb.	0	6	0	0	Spinach.....	bushel	2	6	4	9
Herbs.....	bunch	0	2	0	0	Turnips.....	bunch	0	6	0	4
Leeks.....	bunch	0	2	0	4	Veg. Marrows..	each	0	2	0	4
Lemons.....	dozen	1	0	2	0						

WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 3—9, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.			
3	TH	Dresden Show opens.	63.4	44.7	54.1	6 6	5 33	2 41	10 8					Days.	m. s.	276
4	F		64.4	43.9	54.1	6 7	5 30	3 10	11 24					8	10 58	277
5	S		63.7	41.5	52.6	6 9	5 28	3 31	morn.					9	11 34	278
6	SUN	16 SUNDAY AFTER TRINITY.	63.7	42.4	53.1	6 11	5 26	3 47	0 39					10	11 52	279
7	M		60.5	40.3	50.4	6 12	5 23	4 0	1 52					11	12 9	280
8	TU		61.8	43.2	52.5	6 14	5 21	4 12	3 2					12	12 26	281
9	W	Jersey Show.	63.7	43.4	53.6	6 16	5 19	4 23	4 11					13	12 42	282

From observations taken near London during forty-three years, the average day temperature of the week is 69.3°; and its night temperature 42.8°.

MIXED BORDERS FOR AUTUMN.

BESIDES bedding plants and hardy perennials, there is a host of beautiful flowers which ought to find a place in every garden with any pretension to completeness. They may not do for massing or making a great show, but some of them are sweet, others are pretty, some are useful for cutting for the decoration of rooms, and all are interesting in one way or another. The mixed border is the place for all such as will not fit in anywhere else. Almost anything in the shape of flowers, excepting perhaps scarlet Geraniums, will do there, and a most attractive mixture it is possible to make it if a little forethought is employed in the arrangement. I have such a border situate near the herbaceous borders, in fact temporarily filling the space intended for perennial plants as the collection increases, and I was rather afraid at one time that the temporary plants would prove more attractive than their more permanent neighbours. As a whole they certainly were the most showy, the sweetest, the best filled up, and afforded the greatest quantity of cut flowers; but on longer acquaintance I find there is not so much individuality in the plants, they lack variety compared with the perennials, and the first slight frost totally spoils them; nevertheless they have been extremely useful, and I think while the demand for large supplies of cut flowers lasts, and contemporaneously with it the fashion for bedding-out, which affords nothing to cut, we cannot do better than stick to the mixed border.

The background here is shrubs, as I think it always ought to be; then come Dahlias, two rows. The best varieties I have in a decorative point of view are Criterion, Lord Derby, Andrew Dodds, Chairman, Prince of Prussia, and James Cocker from 5 to 5½ feet high; Toison d'Or, Lady Dunmore, Sir Greville Smythe, Queen Mab, Sarah Maria, Bird of Passage, Lady Gladys Herbert, and Charles Backhouse, 4 to 4½ feet; Flag of Truce, Aristides, and Crystal Palace Scarlet are a foot less. I ought to have the small-flowered Dahlias called Liliputian or Bouquet varieties, as they are more useful for cutting than the large flowers, and I should be glad if someone who cultivates them would name the best half dozen.

Next to the Dahlias are *Convolvulus minor*, *Calliopsis tinctoria* and *C. atro-sanguinea*, sown in May in patches where they are to remain—the last two showy annuals are excellent for cutting; *Delphinium formosum* and several other varieties sown indoors in February this year. Treated thus they do not come so large as when treated like biennials, but they are very good and flower late in the season. *Chrysanthemum carinatum* and other annual varieties sown with Asters and treated in the same way are very fine; so is also *Chrysanthemum frutescens* from cuttings. I am trying some of the early-flowering varieties of *Chrysanthemum indicum*; some of them have done very well, notably Chromatella, Golden Button, Scarlet Gem, Adrastus, White summer Jardin des Plantes, Yellow summer Jardin des Plantes, Delphine, Cartouche, and Illustration. The Chrys-

anthemums named have all been in full flower some time, some of them as early as July, while others which I do not name have not yet shown their colours. Some of them seem just a little delicate, having lost many of their leaves; this may be the effect of rapid propagation in heat, but if we can keep this class of plants healthy they will prove real gardener's friends, as they will bridge over the time between the first autumn frosts and the ordinary *Chrysanthemum* season. *Gladioli* also come in this row, and there is none more useful than *Brenchleyensis*. Herbaceous *Phloxes*, although amongst the hardest of plants, should be here too, and be grown annually from cuttings struck indoors in March. Old-established plants, or such as are propagated by division of the roots, will bear no comparison with spring-struck cuttings. I selected the following names from those grown in the trial beds at Chiswick last year:—*Venus*, Mrs. K. Howitt, Princess Louise, Lothair, Coccinea, Dr. Balfour, Charles Rouillard, Figaro, Menotti, and Chatiment. This row has already a great variety in it, and yet there are the herbaceous *Lobelias* and *Salvia patens*, both too good to leave out; the former should be kept in a cold frame during winter and have the roots divided in spring; the *Salvia* should be kept like Dahlias and propagated in the same way from cuttings.

For the fourth row we have also a rich array of candidates. The better sorts of *Pentstemons* are very beautiful. Cuttings struck late in autumn and kept where they can be covered from severe frost are the best. Half a dozen good sorts are *Delicata minor*, *Rose Perfection*, *J. Decaisne*, *George Sand*, *Stanstead Rival*, and *W. E. Gumbleton*. Then we have *Marvel of Peru*, very sweet and very pretty. The roots of this should be taken up in autumn and kept in dry soil; also *Commelina cœlestis* and *C. alba*, which should be treated in the same way as the *Marvel of Peru*. The blue *Commelina* is without doubt the prettiest blue flower in cultivation; *Salvia patens* is dull beside it, and *Delphinium* is not blue at all in comparison; its only drawback is that it closes too soon in the afternoon, but then it seems to come out fresher and more beautiful every morning till it exhausts itself in seed-bearing or the frost touches it. *Zinnias*, *Victoria* and other tall-growing Asters come in this line, also *Antirrhinum*s grown from seed in the spring, and *Agapanthus*es and *Hydrangeas* potted late in autumn and kept in a cold place.

Now we have for the front line *Tigridia pavonia* and *T. conchiflora*; these require the roots to be taken up in autumn and kept in dry soil. *Linum grandiflorum* to be sown in patches in spring where it is to stand. *Dianthus Heddwigi* in variety, *D. laciniatus* in variety, *Intermediate Stocks*, dwarf *Chrysanthemum*-flowered Asters, *Tuberous Begonias*, scented Geraniums, scented *Verbenas*, and others too numerous to mention.

I have written of the plants here as being in lines for the sake of arranging them according to stature; but as a matter of fact there are none of them in lines excepting the Dahlias. The labels were arranged in lines early in spring, and then some of them in each line were shifted a little one way or the other to better suit the estimated heights and habits of the individual plants and to introduce

a little irregularity, which is more pleasing than a number of straight lines.

It will be observed that all the plants I have named are only summer and autumn occupants. I think it very undesirable to mix these plants with hardy perennials, as the latter, if well selected, are quite able to stand on their own merits; but if half-hardy plants are mixed with them there is certain to be an endeavour to fill up every little space, and in the end, owing to the quick growth of the latter, some of the more delicate perennials are certain to be overshadowed and probably lost.—WILLIAM TAYLOR.

THE ROSE ELECTION.—No. 2.

IN giving the first instalment of the voting papers I propose commencing with the lists of the amateurs, then the nurserymen, leaving those voting in the seventy-two varieties for the last. As regards the poll itself there are some additional points of interest. Nothing, perhaps, is more remarkable than the position reached by several of the newer varieties that promised well last year, especially Mons. E. Y. Teas, Duchesse de Vallombrosa, and Star of Waltham, the former rising from No. 35 last year to No. 24 this, the lady making a still greater jump from 54 to 18, whilst the Star shines out brightly at 30 instead of 47. Should this position of the Duchesse be maintained she will prove a great acquisition. But it may be asked, Have we not had an exceptional fortnight at the time Roses were at their best? I never myself bloomed Duchess of Edinburgh, H.P., out of doors before, so that she asked me to look at and admire her again; and after trying in vain Mons. Noman for a number of years without once seeing him even respectably attired I discarded the whole lot, giving the last plant to our cottage hospital. The Lady Superintendent is a dear lover of the queen of flowers. I happened to be there during that Rose week, and knowing almost the position and name of every Rose there I was greatly surprised to see a plant with eight or ten beautiful blooms on it. "Why!" I remarked, "what have you there?" "Oh, I don't know; one you sent here a couple of years ago without any name." And I discovered it was Mons. Noman, and several of the blooms on it were truly beautiful.

It must be confessed that the Teas do not figure very well. If by courtesy we consider Maréchal Niel one, that Rose is placed very low on the general poll—No. 8; neither is its position much improved in the seventy-two, where it is only saved from being very low down by a fourth-class vote. Then No. 28 comes Catherine Mermet; 37, Souvenir d'Elise; 38-9, Souvenir d'un Ami; 43, Marie Van Houtte; 44-5, Devoniensis; 58, Niphetos; 59, Gloire de Dijon, its exact position last year; 65-6, Belle Lyonnaise—nine Roses out of seventy-two varieties; and in the seventy-two election the number is still only nine. The fact is, that beautiful as they undoubtedly are, they have not the wear and tear constitution about them which most amateur growers require when they have not unlimited means at their disposal. Some persons are enthusiastic about Tea Roses, and when in their grandeur they are truly the most beautiful flowers; but how rarely are they thus seen, and how many are the failures for the one brilliant success! This, it seems to me, lowers their value. Taken as a whole, the Tea element is lower in position this year than last on the general poll. In some respects in the seventy-two the position improves, notably in Niphetos, which becomes 35 instead of 58; and it is natural that those who have a large number of plants of each variety may have the peerless blooms more frequently, and as a result their opinion of the variety is considerably enhanced. Grown under glass in the way advocated by Mr. W. Taylor in our Journal the blooms of the Tea are second to no Hybrid Perpetual, and need no artificial support to enable them to support the scrutiny of a judge, as do too many of the representatives of the class at the present day. But in how many amateur establishments are there to be found the appliances necessary for such results? and without them in exposed situations with ungenial soil the Teas are literally nowhere. I hope the day will never come when a Rose, even if inferior, is to score a point just because it is a Tea. I agree with the Rev. C. P. Peach in his letter to me when he remarks, "Let Teas stand on their own merits. If good they add to the beauty of the stand and increase its merits; if small and weak and tied up to sticks they only spoil it."

It must be remarked that this year Marie Baumann has achieved a grand success in both the elections of forty-eight and seventy-two varieties. It is the only Rose that was named

by every elector in the first twelve. I do not dispute her right for a moment. I certainly should place her at the head of all Roses for the exhibition stand, though I would like to see the stalk of the flower a shade stronger. Marie Baumann has retained her last year's position. Many electors testify to her being the best Rose, and several other Roses have at any rate maintained theirs. Madame Victor Verdier, No. 11; Camille Bernardin, No. 26; Abel Grand, No. 50; Gloire de Dijon, No. 59, with Marie Baumann at the head, occupy exactly the same position as last year.—JOSEPH HINTON, *Warminster*.

VOTES IN ELECTION.

In the following returns the Roses are placed in the order of merit—namely, first best twelve, second best twelve, and next best twenty-four exhibition varieties.

Mr. W. H. PALFREY, *Altrincham*.

- | | |
|----------------------------|--------------------------------|
| 1. Alfred Colomb | 7. Horace Vernet |
| 2. Baronne de Rothschild | 8. La France |
| 3. Charles Lefebvre | 9. Maréchal Niel |
| 4. Duchesse de Vallombrosa | 10. Marie Baumann |
| 5. Etienne Levet | 11. Mdlle. Eugénie Verdier |
| 6. Gloire de Dijon | 12. Sénateur Vaisse |
| 13. Comtesse d'Oxford | 19. Madame Charles Wood |
| 14. Dr. Andry | 20. Madame Victor Verdier |
| 15. Duke of Edinburgh | 21. Marguerite de St. Amand |
| 16. Duc de Wellington | 22. Marquise de Castellane |
| 17. François Michelon | 23. Monsieur Noman |
| 18. Louis Van Houtte | 24. Victor Verdier |
| 25. Alice Dureau | 37. Mdlle. Marguerite Dombrian |
| 26. Annie Laxton | 38. Marquise de Ligneris |
| 27. Antoine Ducher | 39. Maurice Bernardin |
| 28. Auguste Neumann | 40. Monsieur E. Y. Teas |
| 29. Comtesse de Serenye | 41. Madame Prosper Langier |
| 30. Duc de Rohan | 42. Pierre Notting |
| 31. Général Jacqueminot | 43. Princess Beatrice |
| 32. Hippolyte Jamain | 44. Royal Standard |
| 33. La Duchesse de Morny | 45. Richard Wallace |
| 34. Le Havre | 46. Reynolds Hole |
| 35. Madame Nachury | 47. Sir Garnet Wolseley |
| 36. Marie Rady | 48. Xavier Olibo |

Miss PENRICE, *Witton House, Norwich*.

- | | |
|--------------------------------|-----------------------------|
| 1. Alfred Colomb | 7. Capitaine Christy |
| 2. Charles Lefebvre | 8. Reynolds Hole |
| 3. Marie Baumann | 9. Marquise de Castellane |
| 4. Maréchal Niel | 10. Niphetos |
| 5. La France | 11. Jean Liabaud |
| 6. Baronne de Rothschild | 12. Ferdinand de Lesseps |
| 13. Edouard Morren | 19. Marie Cointet |
| 14. Gloire de Dijon | 20. Duke of Edinburgh |
| 15. Marie Rady | 21. Etienne Levet |
| 16. Dr. Andry | 22. Miss Hassard |
| 17. Marie Van Houtte | 23. Camille de Rohan |
| 18. Camille Bernardin | 24. Thomas Mills |
| 25. Cheshunt Hybrid | 37. Monsieur E. Y. Teas |
| 26. Princess Mary of Cambridge | 38. Climbing Devoniensis |
| 27. Jean Ducher | 39. François Louvat |
| 28. Sir Garnet Wolseley | 40. Royal Standard |
| 29. Madame Margottin | 41. Louis Van Houtte |
| 30. Souvenir d'Elise | 42. Duchesse de Vallombrosa |
| 31. Madame Thérèse Levet | 43. Sénateur Vaisse |
| 32. Madame Victor Verdier | 44. Leopold Premier |
| 33. Comtesse de Serenye | 45. Duc de Wellington |
| 34. Olivier Delhomme | 46. John Hopper |
| 35. Comtesse d'Oxford | 47. Souvenir d'un Ami |
| 36. Catherine Mermet | 48. Madame Adèle Huzard |

N.B.—Not in their real order of merit, but as they grow best on this soil.

Mr. E. R. WHITWELL, *Barton Hall, near Darlington*.

- | | |
|-----------------------------|-----------------------------|
| 1. Marie Baumann | 7. Baronne de Rothschild |
| 2. Marie Rady | 8. Emilie Hausburg |
| 3. Louis Van Houtte | 9. Maréchal Niel |
| 4. La France | 10. Belle Lyonnaise |
| 5. Alfred Colomb | 11. Horace Vernet |
| 6. Charles Lefebvre | 12. Duchesse de Vallombrosa |
| 13. Dupuy Jamain | 19. Madame Victor Verdier |
| 14. Camille Bernardin | 20. Sir Garnet Wolseley |
| 15. Ferdinand de Lesseps | 21. Souvenir d'Elise |
| 16. François Michelon | 22. Mrs. Charles Wood |
| 17. Duchesse de Morny | 23. Docteur Du Chalus |
| 18. Star of Waltham | 24. Marquise de Castellane |
| 25. Capitaine Christy | 37. Xavier Olibo |
| 26. Madame Lacharme | 38. Marie Van Houtte |
| 27. Duc de Rohan | 39. Sénateur Vaisse |
| 28. Monsieur E. Y. Teas | 40. Dr. Andry |
| 29. Thomas Mills | 41. Eugénie Verdier |
| 30. Annie Wood | 42. Alba Rosa |
| 31. Catherine Mermet | 43. Duc de Wellington |
| 32. Bouquet d'Or | 44. Reynolds Hole |
| 33. Hippolyte Jamain | 45. Duke of Edinburgh |
| 34. Etienne Levet | 46. La Rosière |
| 35. Duchesse de Caylus | 47. Fisher Holmes |
| 36. Prince Camille de Rohan | 48. Monsieur Boncenne |

Mr. JOSEPH HINTON, *Warminster*.

- | | |
|------------------|----------------------|
| 1. Marie Baumann | 3. François Michelon |
| 2. Maréchal Niel | 4. Charles Lefebvre |

5. Baronne de Rothschild
6. Marie Rady
7. La France
8. Pierre Notting
13. Beauty of Waltham
14. Camille Bernardin
15. Marquise de Castellane
16. Triomphe de Rennes
17. Etienne Levat
18. Emilie Hausburg
25. Dr. Andry
26. Duchesse de Caylus
27. Gloire de Dijon
28. John Hopper
29. Edouard Morren
30. Jean Liabaud
31. Xavier Olibo
32. Duke of Edinburgh
33. Miss Hassard
34. Hippolyte Jamain
35. Marguerite de St. Amand
36. Duchesse de Vallombrosa
9. Catherine Mermet
10. Souvenir d'un Ami
11. Alfred Colomb
12. Baron de Bonstetten
19. Devoniensis
20. Marie Finger
21. Madame Victor Verdier
22. Louis Van Houtte
23. Comtesse d'Oxford
24. Victor Verdier
27. Monsieur E. Y. Teas
28. Ferdinand de Lesseps
29. Star of Waltham
40. Horace Vernet
41. Madame Hippolyte Jamain
42. Général Jacqueminot
43. Duc de Wellington
44. Dupuy Jamain
45. Souvenir de Spa
46. Madame Clémence Joigneaux
47. Mlle. Marguerite Dombrain
48. Prince de Portia

Mr. T. B. HAYWOOD, *Woodhatch Lodge, Reigate.*

1. Marguerite Brassac
2. Charles Lefebvre
3. Baronne de Rothschild
4. Marie Baumann
5. François Michelin
6. Etienne Levat
13. Comtesse d'Oxford
14. Edouard Morren
15. Marie Rady
16. Le Havre
17. Oxonian
18. Sénateur Vaisse
25. Capitaine Christy
26. Xavier Olibo
27. Duke of Edinburgh
28. Abel Grand
29. Dr. Andry
30. Annie Wood
31. Star of Waltham
32. Eugénie Verdier
33. Pierre Notting
34. Exposition de Brie
35. Duc de Wellington
36. Ville de Lyons
7. Monsieur E. Y. Teas
8. La France
9. Maréchal Niel
10. Madame Victor Verdier
11. Madame Thérèse Levat
12. Horace Vernet
19. Duc de Rohan
20. Camille Bernardin
21. Empress of India
22. John Stuart Mill
23. Mrs. Baker
24. Emilie Hausburg
27. John Hopper
28. Duchesse de Vallombrosa
29. Louis Van Houtte
40. Lord Macaulay
41. Devoniensis
42. Belle Lyonnaise
43. Beauty of Waltham
44. Madame C. Crapet
45. Prince Camille de Rohan
46. Madame Lacharme
47. Reynolds Hole
48. Fisher Holmes

Capt. CHRISTY, *Westerham, Kent.*

1. Alfred Colomb
2. Charles Lefebvre
3. Duchesse de Vallombrosa
4. Dr. Andry
5. Horace Vernet
6. Louis Van Houtte
13. Baronne de Rothschild
14. Capitaine Christy
15. Comtesse d'Oxford
16. Comtesse de Serenye
17. Dupuy Jamain
18. Duc de Wellington
25. Abel Grand
26. Annie Laxton
27. Annie Wood
28. Baronne de Bonstetten
29. Beauty of Waltham
30. Camille Bernardin
31. Duchesse de Caylus
32. Duke of Edinburgh
33. Ferdinand de Lesseps
34. Henri Ledechaux
35. Jean Soupet
36. John Hopper
7. Marguerite de St. Amand
8. Marie Baumann
9. Marie Rady
10. Marie Finger
11. Marquise de Castellane
12. Monsieur Noman
19. Etienne Levat
20. Emilie Hausburg
21. François Michelin
22. Hippolyte Jamain
23. Maréchal Niel
24. Monsieur E. Y. Teas
27. La France
28. Madame Clémence Joigneaux
29. Madame Lacharme
40. Madame Thérèse Levat
41. Madame Victor Verdier
42. Nardy Frères
43. Pierre Notting
44. Sénateur Vaisse
45. Victor Verdier
46. Xavier Olibo
47. Catherine Mermet
48. Souvenir d'Elise Vardon

Rev. ALAN CHEALES, *Brockham Vicarage, Reigate.*

1. Charles Lefebvre
2. Alfred Colomb
3. Marie Baumann
4. Maréchal Niel
5. La France
6. Annie Wood
13. Comtesse d'Oxford
14. Etienne Levat
15. Horace Vernet
16. Dr. Andry
17. François Michelin
18. Sénateur Vaisse
25. Le Havre
26. Xavier Olibo
27. John Hopper
28. Reynolds Hole
29. Victor Verdier
30. Camille de Rohan
31. Duc de Rohan
32. Monsieur Boncenne
33. Madame Lacharme
34. Star of Waltham
35. Souvenir d'un Ami
36. Madame Thérèse Levat
7. Baronne de Rothschild
8. Marie Rady
9. Louis Van Houtte
10. Marquise de Castellane
11. Mlle. Eugénie Verdier
12. Madame Victor Verdier
19. Duke of Edinburgh
20. Gloire de Dijon
21. Duc de Wellington
22. Marguerite de St. Amand
23. Capitaine Christy
24. Comtesse de Serenye
27. Monsieur Noman
28. Cheshunt Hybrid
29. Pierre Notting
40. Duchesse de Vallombrosa
41. Emilie Hausburg
42. Annie Laxton
43. Monsieur E. Y. Teas
44. Ferdinand de Lesseps
45. Catherine Mermet
46. Prince Arthur
47. Niphotos
48. Madame Bravy

Mr. JOHN TAYLOR, *Malpas, Cheshire.*

1. Alfred Colomb
2. Marie Baumann
3. Mlle. Marie Rady
4. Charles Lefebvre
5. Louis Van Houtte
6. Lord Macaulay
13. Comtesse d'Oxford
14. Emilie Hausburg
15. Fisher Holmes
16. Capitaine Christy
17. La France
18. Madame Georges Schwartz
25. Alice Dureau
26. Dr. Andry
27. Duchesse de Vallombrosa
28. La Rosière
29. Mlle. Eugénie Verdier
30. Prince Camille de Rohan
31. Sir Garnet Wolseley
32. John Hopper
33. Thomas Mills
34. Victor Verdier
35. Beauty of Waltham
36. Lælia
7. Madame Thérèse Levat
8. Marquise de Castellane
9. Monsieur Etienne Levat
10. François Michelin
11. Reynolds Hole
12. Baronne de Rothschild
19. Marquise de Mortemart
20. Monsieur E. Y. Teas
21. Mlle. Marie Cointet
22. Star of Waltham
23. Sénateur Vaisse
24. Monsieur Boncenne
37. La Duchesse de Morny
38. Dupuy Jamain
39. Edouard Morren
40. Duc de Wellington
41. Abel Grand
42. Hippolyte Jamain
43. Madame Victor Verdier
44. Marquise de Gibot
45. Belle Lyonnaise
46. Xavier Olibo
47. Marguerite de St. Amand
48. Monsieur Paul Neyron

Mr. MAYO, *Cornmarket Street, Oxford.*

1. Charles Lefebvre
2. Alfred Colomb
3. Baronne de Rothschild
4. François Michelin
5. Madame Victor Verdier
6. Mlle. Marie Rady
13. Emilie Hausburg
14. Abel Carrière
15. Beauty of Waltham
16. Duc de Rohan
17. Duchesse de Vallombrosa
18. Dr. Andry
25. Madame Georges Schwartz
26. Madame Lacharme
27. Mlle. Thérèse Levat
28. Marquise de St. Amand
29. Marquise de Castellane
30. Souvenir de Paul Neyron
31. Monsieur E. Y. Teas
32. Duke of Connaught
33. Pierre Notting
34. Capitaine Christy
35. Duke of Edinburgh
36. Ferdinand de Lesseps
7. Marie Baumann
8. Maréchal Niel
9. Royal Standard
10. La Duchesse de Morny
11. Star of Waltham
12. Devienne Lamy
19. Camille Bernardin
20. Mlle. Marie Cointet
21. Sénateur Vaisse
22. John Hopper
23. La France
24. Madame Hippolyte Jamain
37. Horace Vernet
38. Comtesse d'Oxford
39. Etienne Levat
40. Mlle. Eugénie Verdier
41. Catherine Mermet
42. Marie Van Houtte
43. Reynolds Hole
44. Auguste Rigotard
45. Duc de Wellington
46. Le Havre
47. Sir Garnet Wolseley
48. Comtesse de Serenye

VINE MILDEW.

THIS destructive pest which preys upon Vines has spread its ravages through several vineries this season, especially those that have been subject to it in previous years. From careful observations made for some time past the Vine mildew is, in my opinion, primarily caused by drought at the roots of the Vines. I do not say this is the sole cause of it; there may be many causes operating to bring about a diseased condition of the tissues of the Vine, subjecting it to disease.

Vine mildew is generally believed to be brought about by the atmosphere of the house being overcharged with moisture, and sulphur applied to the pipes and a warm dry atmosphere have been recommended as a preventive against its spreading. When first seen upon the Vine the fumes of sulphur will certainly kill this destructive parasite, but it is not advisable to use it if the disease makes its appearance as soon as the Grapes are set, for it will cause rust, as the skin of the embryo Grape is not sufficiently strong to resist its fumes.

I have found that the warm dry atmosphere of the vinery is suitable to the growth of mildew; the drier the Vine is kept both at the root and the air of the house the faster spreads the mildew, until it attacks every Vine. After hot dry summers the disease seems more prevalent than in wet damp seasons, especially where the soil used for the Vines is light and sandy, more so than when the soil is of a heavier texture. Where the roots of the Vine are in a cold saturated border and the internal atmosphere anything but suitable, or any other cause that will bring the Vine into a semi-starved condition, will subject it to the ravages of disease; still I hold that root-drought is the main cause, and most suitable to its development.

Three years ago three vineries were under my charge, all of which had previously been troubled with mildew. In the first house the Grapes were cut on the 28th of April, and being compelled to have many plants in the house forcing for conservatory decoration, the atmosphere was consequently kept moist, and no trace of mildew was to be found. The second house was treated differently. At the first symptoms of the disease the plants were cleared out and a warm dry atmosphere maintained, and in ten to fourteen days every Vine

was attacked with the exception of Malresfield Court Muscat, and not a vestige of the parasite was found upon it. When found to spread so rapidly under the dry treatment the borders inside and out were thoroughly watered, and from that time the mildew decreased. The third house was filled with Azaleas to make their growth. This house was kept very moist and the borders thoroughly watered as they required it, and the disease has never made its appearance. There is, I think, still something to be learned as to the cause and prevention of mildew. Will some of your able correspondents give attention to this important subject?—W. BARDNEY, *Norris Green*.

TEA AND NOISETTE ROSES.

No one can deprecate more than the writer the absurdity of making Tea and Noisette Roses first favourites at the expense of Hybrid Perpetuals. Practically speaking (for exhibition purposes I mean, of course) this never generally can be done. With a vast majority of rosarians, certainly those living in the northern parts of England or under the baneful shadow of manufacturing districts, scarcely any of the Tea or Noisette varieties can be grown, though occasionally they may exist; while the amount of success attained is utterly inadequate to the expenditure of trouble expended upon them: as our transpontine neighbours would say, *Le jeu ne vaut pas la chandelle*. These I know are truisms, still I could name many enthusiasts who year after year will keep on playing this losing game, while if they expended a tithe of their labour of love on Hybrid Perpetuals they would, in many cases at least, not only produce healthy plants and creditable blooms wherewith to gladden their eyes at home, but if so minded could compete with fair prospect of success at our leading Rose shows.

Mr. Laxton, the skilful raiser of most of our grandest English new Roses, is a signal case in point of what may be done under untoward circumstances. I remember well his writing to me, a good many years ago, how he had to bring his soil to his rosaries by railway in truckloads, while the air of the town in or near which he lived was dense with vapour from neighbouring manufactories. Now it is a matter of history in our Rose annals how Mr. Laxton's Roses sped. I can well remember their exquisite symmetry and colour, and how often, in spite of their want of size, their intrinsic merits promoted them to the highest honours; but I will venture to say no Tea Rose ever found a place in these exhibits grown in the open air.

Now while a low, or smoky, or otherwise chemically affected atmosphere is fatal to these delicately framed varieties, their value in a light poor soil cannot be too highly insisted upon, lavishly repaying the cultivator for any manurial adjuncts applied *ad libitum*, and this improvingly over a long number of years; whereas Hybrid Perpetuals would give but a partial and short-lived success through requiring periodical supplies of inorganic matter, such as fresh loam, &c., so absolutely essential to produce blooms suitable for exhibition. "WYLD SAVAGE," wise in his generation, endorses the truth of these remarks by drawing upon the Teas and Noisettes in his poor soil for a goodly proportion of his exhibition blooms, which seldom fail to be noticed somewhere in the prize list, though of late years, he remarks with a sigh, at the wrong end. But while I repeat I deprecate any comparison between Teas and Hybrid Perpetuals, it must be confessed that few exhibitors would like to exclude the former. Would it not be painful to think as to what without Teas must be the result of the Colchester, Salisbury, Cheshunt, and Torquay exhibits? A casket there would indeed be of precious stones but without the Rose diamonds. It is curious to notice how these and other exhibitors have their specialties, wisely no doubt growing most those varieties which flourish with them best. In the late *annus mirabilis* for Teas, continued down to this present date, Mr. Cant's exhibit of Boule d'Or will not easily be forgotten (so I hear, for I have never seen this difficult Rose expand yet), or his Souvenir d'Elise, a superb Tea Rose which this season seems specially to favour, and which should be in the smallest collection. Mr. Curtis also showed on several occasions magnificently Madame Hippolyte Jamain. I think that there never was a more exquisite bloom than of this Rose shown by this firm at the Alexandra Rose Show, where also Mr. Jowitt among amateurs showed a bloom of that uncertain Tea Rose Jean Ducher, which for immense size, substance, and colour was a perfect gem.

Mr. Baker seldom exhibits early or late without showing

that lovely and useful Noisette Madame Caroline Kuster, a variety not sufficiently known as its merits deserve, being one of the freest-growing and blooming Roses in cultivation; indeed, if Tea and Noisette Roses as a class came up to this standard the vexed question of admitting them in combination with Hybrid Perpetuals would *ipso facto* answer itself. Mr. Cranston often exhibits with great effect an old Tea I can confidently recommend, called David Pradel, a remarkably free bloomer, especially in autumn, when its large shell-shaped petals vary remarkably as to colour in separate blooms on the same plant from deep red to the faintest pink. But the belle of the season perhaps has been an old Rose little known to the public except as a pot Rose under glass, Tea Comtesse Nadailac. This excellent Rose seems one of Mr. G. Paul's specialties, as his firm several times exhibited fine specimens of this effective Rose; especially grand they were I was told at Manchester. Mr. Camm writes about this Rose at the West of England Rose Show at Hereford (where, as seen in the writer's stand, he pronounces it the premier bloom of the show), "as delicate and generally small." My experience is entirely the reverse. This Tea flourishes with me in surprising vigour; indeed, I have before me now two large finely coloured blooms I only wish my friend could see. No collection of Teas, I hold, can be complete without this distinct and useful variety.

Two of the most constant and lovely exhibition Tea Roses must by general consent be considered Catherine Mermet and Marie Van Houtte. Mr. Baker and Mr. G. Paul showed the latter grandly this season, although, perhaps, it would have been a shade more in character with a brighter summer. He would be a bold man indeed who would venture to ignore the claims of these two queens, or decide *ex cathedra* on their rival charms. Why, it would be the old tale over again of Paris introducing the apple of discord! In my humble way I am quite content (more especially as both their majesties agree admirably in my garden) to say with the country yokel—

"How happy could I be with either
Were t'other dear charmer away."

Commend me to the fair Catherine for perfection of maidenly symmetry and smooth and glowing yet of unfreckled untanned complexion; but what can surpass the equally fair Marie for matronly embonpoint and exquisite gradations of colour—the very faintest primrose coyly capturing the tints of the rosy-fingered morn?

I hope, with your permission, to forward a short descriptive list of old and new Tea and Noisette Roses which from experience I can fully recommend as distinct and useful, in addition to those I have already touched upon, which may have some interest with the public, especially as Mr. Hinton finds his Hybrid Perpetual exhibition election quite sufficient this year. I will conclude with a rather apposite quotation from the Laureate's "Queen Mary;" lines which, although referring primarily to that "queen of a day" the peerless Lady Jane Grey, may, by a fair poetical licence, be transferred to the subject of this paper, a perfect Tea Rose—twin bud and blossom—

"Rose of grace,
Girl never breathed that equalled such a Rose:
Rose never grew that rivalled such a bud."

—HEREFORDSHIRE INCUMBENT.

THE CRYSTAL PALACE.

THIS place of recreation is deservedly popular with all classes resident in London and its vicinity, and also with strangers who visit the metropolis from all parts of the world; gardeners, too, when in London on a tour of inspection would be well repaid for a day there, as among its many and varied attractions not the least important are the extensive and well-kept grounds. The site of the Palace was well selected, as a better spot for a view of the country around London it is impossible to find. This elevation, although giving good scope to the landscape, which has certainly been made the most of, militates very much against the efforts of Mr. Thomson the skilled Superintendent of the horticultural department, shelter being very requisite to many kinds of shrubs and plants necessarily employed. This being the case it was all the more surprising to find the beds of Pelargoniums and kindred bedding plants looking so bright and well late in September—in fact, as bright as we usually see them in July or August.

The sight presented to the visitor on arriving at the low-level station entrance is very grand indeed. Directly opposite is the rosery, an elevated and elaborate structure of trelliswork

intended for climbing Roses. These, however, in consequence of being too much exposed are a failure, and are being gradually superseded with Ivy. The base of this structure is surrounded by a bank beautifully festooned and figured with Pelargoniums in variety, *Iresine Lindeni*, *Tagetes signata pumila*, *Lobelia*, *Alternanthera*, &c. The *Tagetes* is kept pinched back, and by this treatment a beautiful green-foliage plant is obtained, which contrasts well with the other plants, and also helps to make a groundwork for the most prominent plant forming the festoon—*Pelargonium Golden Superb Nosegay*. The latter variety is here considered superior in point of colour to the old *Crystal Palace Gem*. Some idea may be formed of the grandeur of this bank when it is stated that upwards of twenty thousand plants are used on it.

On the bank immediately below the walk surrounding the

foregoing are a series of eighteen circular carpet beds alternating with beds of dwarf Roses. These carpet beds are all dissimilar, and so bright and well do they look, even on the north side, that it is almost impossible to decide which are the best. Fig. 39 will help to give some idea of their effect. A great variety of plants are used in all the beds, which makes them more interesting than where two or three varieties only are used. *Kleinia repens* is a very effective bluish grey plant for lines, and another silvery grey plant likely to become popular is the *Saxifraga longifolia*. The *Mentha Pulegium gibraltarica* is the best green plant used. A mixture of *Alternanthera amena* and *Sedum acre elegans* is very pleasing wherever placed. *Pelargoniums Golden Harry Hieover* and *Mrs. Pollock*, and *Lobelia pumila magnifica* are freely used in the carpet beds and with good effect. One man only is re-

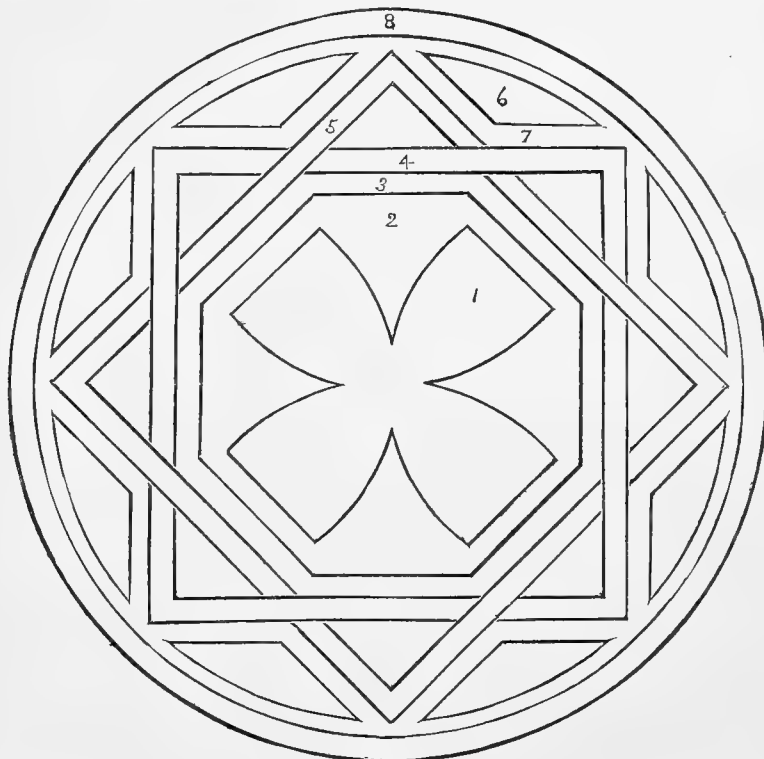


Fig. 39.

- 1, *Leucophyton Brownii*.
2, *Coleus Verschaffeltii*.
3, *Mrs. Pollock Geranium*.

- 4, *Golden Feather Pyrethrum*.
5, *Alternanthera amabilis latifolia*.

- 6, *Echeveria secunda glauca*.
7, *Mentha Pulegium gibraltarica*.
8, *Golden Feather Pyrethrum*.

quired to keep the carpet beds in excellent trim. On the lawns near the above plain beds are placed at intervals near the walks. These in most instances are simply but very effectively planted. Beds filled with a mixture of bronze *Pelargonium James Richards*, and which are allowed to flower, with *Centaurea candidissima*, *Gazania splendens* and *Lobelia Blue King*, *Amaranthus melancholicus ruber* and *Centaurea candidissima*, edged with *Pelargonium Crystal Palace Gem*, and *Verbena venosa* and a silver variegated *Pelargonium*, are all very pleasing.

Opposite to these in the direction of the Palace are several beds filled with bedding Dahlias. These look remarkably well, and will doubtless have the desirable effect of stimulating the use of this class of bedding plants. The following varieties are used:—*Alba floribunda*, white; *Rising Sun*, scarlet; *Titian*, yellow; *Zelinda*, purple; and *Golden Gem*, yellow.

Near these fine autumnal beds is the only sheltered spot where subtropical plants can be employed, and of these there are only a few in number. One bed with a centre group of *Ricinus Obermannii* surrounded with *Ferdinandia emimens*, these again with *Wigandia caracasana* edged with *Dell's Crimson Beet*, fringed with *Festuca glauca*, is highly effective, the purplish stems of the *Ricinus* being very discernible. On the right and left of the walk leading up to the lower terrace

steps are two long beds attractively filled with groups of evergreen, variegated, and coniferous plants. Limited space forbids a lengthy description of these much-admired beds, which contain several varieties of *Retinosporas*, and flowering groups of *Sedum spectabile* just now greatly enliven the arrangement.

The terrace garden with its central fountains and numerous and well-arranged beds is also looking well, and the alterations recently effected by Mr. Thomson are a marked improvement. Private gardeners would do well if, instead of putting their whole stock of bedding plants into one or two places, they followed the plan so well carried out both at the *Crystal Palace* and parks. A combination of beds is doubtless very grand, but it has the effect of making the other part of the grounds comparatively dull. On the other hand, if the beds were distributed throughout the grounds the interest and pleasure is sustained, the beds being shown up by the turf, and by their very brightness improving rather than detracting from the appearance of the Conifers, shrubs, &c.

Many varieties of Conifers and other shrubs from causes given above do not thrive in the Palace grounds, and some of the delicate and rather unsightly specimens are being replaced by hardier sorts, such as *Pinus austriaca*, &c. On each side of the grand terrace steps leading up into the Palace are two long

borders, filled at the back with Rhododendrons and in front with a great variety of succulents, including the following:—*Sempervivum canariense*, *S. arboreum variegatum*, *S. umbilicum*, and *S. serrulatum*, very tastefully and effectively grouped. The beds on this terrace extend at intervals the whole length of the Palace, and have been very fine indeed, but many of them are damaged by the frequent displays of fireworks held near them.

The following Pelargoniums are favourites at the Palace:—Mrs. Turner, deep pink; *Triomphe de Stella*, scarlet; Waltham Seedling, scarlet; *Gloire de Corbenay*, pink; Lady Kirkland, deep rose; Bonfire, scarlet; Amaranth, and Christine. Black Douglas is the best bronze-foliaged variety. *Ageratums* Lady Jane and Countess of Stair are both good and useful.

The plants in the tropical stove are looking very healthy, and the plants throughout the Palace are in admirable condition, the Tree Ferns being particularly good. *Chrysanthemums* in large numbers will eventually produce a display well worthy of a visit by the lovers of this useful plant. In conclusion I believe I can safely say that the grounds never looked better, and that in Mr. Thomson the Crystal Palace Company have a most efficient manager well worthy of this fine place.—W. J. O.

DRESSING CARNATIONS.

It is quite according to my nature that I should write wild of any subject, but I do not see that I am so wild of the mark as Mr. Douglas supposes.

I believe gum has been used before now, if not in Carnations, at all events in other flowers. Mr. Douglas says that dressing is not requisite for the Rose. He is right; it is not, no more is it for the Carnation. I think a clever operator might dress to advantage several Roses. Etienne Levet, for instance, is a Rose no one cuts without misgiving; it is so beautiful on the tree when half opened; but we all know that in a short time its petals are so few that it will show an eye. If, however, we could close the eye up like Beauty of Waltham does for herself, then we should have no eye seen in her also.

"D., Deal," has proved that it is quite possible for an undressed Carnation to beat a dressed one by telling us how Mr. Rudd, a most excellent florist from the north, won the premier prize with a bloom cut and exhibited as grown. Then why should we have this stilted unnatural form of exhibiting these lovely plants?

Mr. Douglas says he has never seen a bloom when dressed so altered that he should not have known it. Well, I can only say that Mr. Charles Turner told me that an exhibitor of Carnations left his stand for a short time, during which he dressed his flowers. On returning, the exhibitor admired the blooms exceedingly, and asked whose they were. The answer, "They are your own," sent him into a seventh heaven of delight.

Some people, I know, can grow Carnations but cannot dress them, and are obliged either not to exhibit or to show them undressed. It has been hinted to me that Mr. Douglas himself either cannot or does not dress all his Carnations, but calls in the aid of an expert dresser before exhibiting at the great shows. If this be the case, to whom should the prize go—to the grower or the dresser? As dressing seems to be the *sine quâ non* of exhibiting, it would seem as if the dresser should have it; but if a more natural state of things existed then the grower would of course take it.

With regard to a letter signed "A GILLYFLOWER," I have to express my gratitude, not only for the kind way in which your correspondent treats my remarks, but also for the liberal offer he makes me. Of course I shall most gratefully accept any plants he is good enough to send me, yet at the same time I do not see my way to showing Carnations.

I must now answer some questions which "A GILLYFLOWER" puts to me. He asks, "Does not 'WYLD SAVAGE' dress the Rose at all?" Most certainly not, is my reply. "Are the fine flowers he shows the natural growth of the half-starved stunted plants which are grown in his garden?" Most decidedly they are, just as they are cut from the plants. "Does he add a leaf or two, sometimes a bud, to his flower?" Never, I reply; if I did so I should be cheating, and even if I escaped detection should be breaking one of the laws of Rose-showing. The addition even of a leaf will disqualify. The Rose must be shown as grown. "Does he tie the flowers up with a piece of twine or bast, and cut the same just before leaving the stands for the judges to go over?" I have never done such a thing in my life. I have never even brought a Tea Rose up to a show with a piece of bast tied round it, though I am aware

some exhibitors do this; but if I did I should not be dressing in the way a florist dresses a Carnation. I never heard of a man dressing a Rose beyond removing a dead petal.

"A GILLYFLOWER" certainly makes out a very strong case for dressing; he almost claims for it the old Latin rule, which says that which has always been done, which is done by all people, and done everywhere, must be right. But all this does not in the least degree detract from our point, which is that the custom is a barbarous one and ought to be disallowed for the future.—WYLD SAVAGE.

NECTARINES.

YOUR correspondent "A KITCHEN GARDENER" has, on page 200, communicated practical notes on the Nectarine, but I differ from him in some of his remarks. First, I think the Nectarine must be placed second to the Peach, not that it is less hardy, for I think it much harder than the Peach, but that the fruit is not nearly so much esteemed. I am seldom asked for a Nectarine, but Peaches are always wanted. If again we adopt the advice to put up light houses to grow these fruits in, an idea I strongly support, I would plant it with Peaches rather than Nectarines, especially if the fruit is grown for sale, as the former would make double the price the latter would. A good Nectarine is an agreeable change to a Peach, but I never heard it spoken of as its equal. A 2-feet deep border would do well in a heavy wet soil, but in a high dry situation I would say 3 feet.

And now as to varieties. Lord Napier is really the best. It is a fact I cannot account for, but here Elruge is most disappointing. I had thought it the best for some twenty years, but of late I have found it inferior. Hardwicke Seedling is good in all points, and earlier than Elruge. Violette Hâtive is fair; but let me name a substitute in that noble Nectarine Balgowan. This is altogether the best Nectarine grown except Lord Napier, and the two together cannot be beaten in any way. Balgowan is later than Violette Hâtive, with more the growth of the White Nectarine—strong, clean, and handsome in foliage and fruit. It is a free bearer, and I have seldom seen mildew on it, or in fact any of the ills Nectarines and Peaches are subject to. Pitmaston Orange, or rather Pine Apple, which is decidedly better flavoured, I would place third to the above two. Newington I would not have at any price; I simply consider it the worst Nectarine grown.—J. TAYLOR, *Hardwicke Grange*.

THE WARS OF THE ROSES.

CORDIALLY do I join with Rev. Canon Hole in applying for an interim injunction to restrain "WYLD SAVAGE" from awarding permanent first and second prizes to our Rose friends Messrs. Baker and Jowitt before future exhibitions are even held, and I decline to shut out in any spirit of bumpiousness all other competitors against ourselves for the assumed positions of third and fourth assigned to himself and me. True, we find a considerable difficulty in competing favourably against Rose grounds in full bloom, when we can scarcely make up our stands because our Roses are not out. I at least feel also somewhat swamped by mere numbers, as with two thousand plants I contemplate those "who come against me with twenty thousand;" but if we could equalise the conditions all the usual good exhibitors would do "as well as each other, probably better," as Lord Dundreary would say, then cultivation, judgment, and taste would tell.

The true Rose-growing fraternity know well enough that those who take the highest prizes (especially if only at the early shows), are not, therefore, necessarily the best rosarians. Victory at Rose shows generally sides with the largest battalions of plants; and whatever the general public may imagine, Rose-growers clearly understand that the contest is not one of superiority of culture as between different exhibitors, but merely a trial in which seasons, dates, distances, and numbers tell in favour of some and to the disadvantage of others.

For those who like myself grow comparatively few plants there is always this consolation, that when Goliath conquers David he has nothing to be very proud of, but when David conquers Goliath he ought to be allowed to crow a little.—EDWARD N. POCHIN, *Barkby Vicarage*.

I MUST decline further discussion with one who ignores the simple fact that we rosarians of the midland and northern counties cannot compete with the southern exhibitors at their early shows, and who sees no proof of this statement in my

victory over one of his two invincibles at Manchester, the other, though he had entered, declining to show; but I must take this opportunity, on behalf of many rosarians, to assure "WYLD SAVAGE" that remarks upon Roses by one who does not realise them in their perfection affect us no more than a slight overflow of the Cam would alarm the University of Cambridge.—S. REYNOLDS HOLE.

NOVELTIES IN THE ROYAL GARDENS, KEW.

BEGONIA STARLIGHT has taken the attention of horticulturists, and we cannot do better than point out a specimen in the cool end of the T range. It is the production of Col. Clarke, who gave to the world the invaluable *B. Weltoniensis*, and is the result of crossing *B. insignis* with *B. Pearcei*. The latter has brought to order the straggling habit of *B. insignis*, has relieved it of its pink colour while imparting none of its yellow, and the result is almost a pure white. Its points of merit are dwarf shrubby habit and great profusion of flowers; with it to grow is to bloom, which it has done all the summer, and by judicious resting at this season it can be made one of the best of winter-flowering plants. Another hybrid raised by the same gentleman called **Sunlight** is also of merit, but the flower stalks are so long that above the foliage it has a loose habit. The colour is rich orange, obtained by crossing *B. Pearcei* with *B. cinnabarina*. The former is an excellent parent for experiment, having a very compact and floriferous habit; in itself it is nearly perfect with regard to a kind of good habit with golden yellow flowers. The advent of this beautiful class marks an era in floricultural progress.

Still in the same compartment we notice a specimen of the rare and curious *Brunsvigia Josephina*. It bears an umbel of flowers scarcely surpassed in size by any bulbous plant. The individual flowers resemble *Nerine*; they are sharply depressed at the end of a straight stalk, often a foot in length; the colour is red, irregularly marked with orange, and a single umbel may consist of forty blooms. It comes from the Cape, and is of the choicest character for bulbous collections. *Hæmanthus coccineus* is also sufficiently rare to receive notice; there are two fine pans, each with about a dozen immense flower heads. The florets are densely packed within several large fleshy scarlet bracts, and these no doubt by many are supposed to constitute the perianth. It also comes from the Cape.

The *Victoria regia* this year has shown a peculiarity; its flowers, instead of reposing on the water, are raised from 6 to 8 inches above, standing firmly erect. A large picture we are aware was once condemned on account of exhibiting the same circumstance, now, however, proved to be a truthful representation. Around this tank are many plants of interest; one of these, *Zizania aquatica*, will shortly be in flower. It is a Grass, the stems of which form a valuable material for paper-making, though best known on account of the value of its seeds, which are said to equal the best rice, known as Canada rice; it affords food for countless flocks of water fowl. The plant until the spring of this year had long been out of cultivation; young plants were then obtained for the Royal Gardens, seeds being quite useless, as they soon lose their germinating power. Another interesting plant, with the addition of considerable beauty, is *Monochoria vaginalis*. It is nearly allied to *Pontederia*, of which it has much the aspect, but the leaves are much larger. The flowers are blue, collected together in a mass, and appear as if growing from the petiole, a leaf above being in direct line with the stem. When young it is eaten in India as a pot herb, and is used also medicinally for disorders of the stomach and liver. It is considered when chewed a remedy for toothache. *Reana luxurians* is a Grass, about which much has been said for its alleged value as a forage plant. It is a native of Guatemala, and has been tried in the most favourable parts of France without any result to show the ground of its reputation. Here it reaches a height of 10 feet or more, and has something the appearance of Maize. It is proper to add that rightly it is called *Euchlena luxurians*. *Ceratopteris thalictroides*—the only truly aquatic Fern, and a great rarity in collections—is extremely pretty, especially in its fertile fronds, which are tripinnate with narrow segments. It has a most graceful habit, and but for its succulence would be useful for decorative purposes. Like all water plants it is widely distributed, growing in all the tropics. It is one of the very few annual Ferns, and produces its spores in immense quantities.

In the herbaceous collection several novelties may be found, the most choice for the moment being *Meconopsis simplicifolia*, a Poppy of the Himalayas, hardly suggesting its relationship.

It has a tuft of narrow undivided leaves resting on the soil, from the centre of which arises a single scape bearing a single large purple flower. In this particular it differs from other species with which we are acquainted, all these having a large number of flowers on the same stem. Next in order of rarity are *Kniphofia sarmentosa* and *K. Macowani*. They are species of the genus known to some as "Red Hot Pokers," justified to the greatest extent by the well known *K. Uvaria*. These are much smaller in growth, and when out of flower are ornamental on account of their glaucous leaves. *Castilleja indivisa*, introduced by Mr. Thompson, is still in flower, or rather in bract, these having all the colour and size; the flowers are small and comparatively inconspicuous.

Passing through the Orchid houses, even at this dull season we find much to entertain. *Dendrobium cumulatum* has clusters of flesh-coloured flowers at intervals along the stems, and from its similarity to *D. mutabile* is suggestive of use for the same purpose, that of making buttonhole bouquets. *Lælia Dayana* is flowering nicely on a block, *Masdevallia* is represented by *M. Veitchii*, and *Miltonia* by *M. Clowessii* and *M. candida grandiflora*. Coming to *Cypripedium* and *Oncidium* there are several kinds of each. Of the first *C. Sedeni* is no doubt the most choice; then follow *C. concolor*—growing in chalky loam, and showing that it likes this exception to the usual treatment for *Cypripedia*—*C. longifolium*, and, as we think it should be placed, *C. longifolium* var. *Roezlii*. *Oncidium Kramerii* is a most beautiful species, and a Butterfly Orchid is always of interest. *O. tigrinum* has a fine pale yellow lip and barred segments. *O. flexuosum* has a number of small pretty flowers, and lastly *O. triquetrum* is curious; it is one of the smallest species, looking best and even attractive when placed thickly together on a stem. Its flowers are brown and frequently present. A native of Jamaica.

THE ROSE ELECTION.

WHAT am I to think of the election? Surely it must be a mockery to me; for can anything be more mocking than to be placed in the election the seventy-first out of seventy-two Roses, the penultimate number in this grand election being the Rev. John B. M. Camm? Is it any wonder that I am wylf? I look for comfort at the returns, and I see that some kind friend has placed me in the first twelve. Another gleam of comfort to be derived by me from the declaration of the poll is that Catherine Mermet is in the first twenty-four, and that at least is something; while Gloire de Dijon has descended to fifty-nine [it was No. 59 last year], in the forty-eight and is not mentioned by a single nurseryman, which is a state of things highly consolatory to one who has written to this effect for years.

On this occasion the election, I feel bound to say, that though to me it is a mockery, it is neither a delusion nor a snare to me or anyone else. It is a most valuable return, and the two tables, the seventy-two and forty-eight, furnish us with not only a novel, but a most useful table of reference. As an organ builder said to me on completing a large organ, "You will find it will take you years to find out all the combinations of stops that you can make;" so it will be many weeks before I shall have exhausted all the interesting information which the declaration of the poll conveys. The labour of drawing up such a return must have been very great, and I, as I think I have done on all previous occasions, lose no time in thanking Mr. Hinton for the trouble and labour that he has expended upon this work. Perhaps Mr. George Paul will show his appreciation by naming his next seedling after the returning officer; if he does, let us hope that when the election comes he will not find his name placed No. 71 in one list and not mentioned at all in the other.—WYLD SAVAGE.

PRESERVING FRUIT WHOLE.

THE art of preserving green fruit in bottles and ripe fruit in jars of syrup is well known to all cooks, but unless the operation is done very carefully the fruit very often does not keep well, being apt to be mouldy and to lose flavour. A friend of mine, an Edinburgh nurseryman, who lately stayed with me on his way back from Paris, told me that in the Exhibition there his attention was attracted to some preserved fruits in a very perfect state. On making inquiries as to the process of preserving he was informed that the price of the secret was five francs; on paying this he was told that it was accomplished by placing the fruit in a close box or press with

a gallon of water in a jar and two table-spoonfuls of sulphur in a tin. The sulphur is set fire to and the whole is kept close until it is consumed, when the fruit is taken out in a state that will remain perfect for two years. It is an American discovery, and as it is well known that sulphur has a great power of killing the germs of disease there may be something in it, and I would be pleased to hear the result from anyone who may try the experiment, as I intend to do.—A KITCHEN GARDENER.

CAPE HEATHS.—No. 9.

It will be well now to place these plants under cover. Many growers prefer to repot their young specimens at this particular

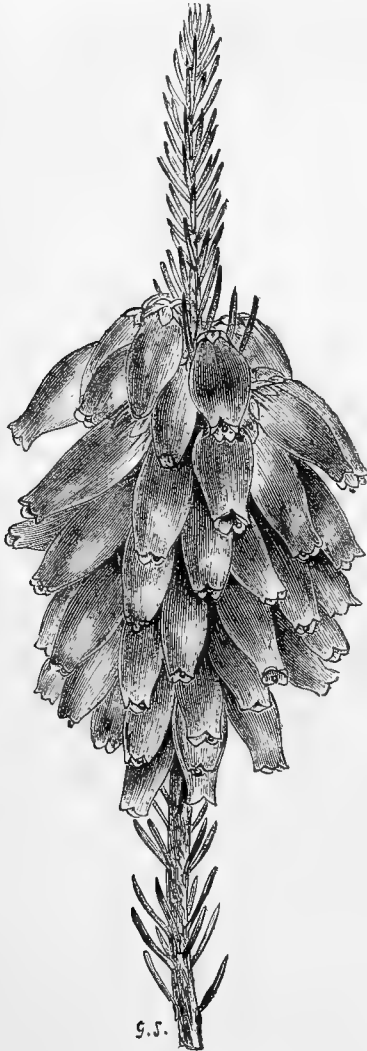


Fig. 40.—*Erica verticillata*.

season, and we would recommend it to be done now at once. Use good sandy peat, and above all things drain the pots well. Do not break the soil too small, and in potting press it very firm. The plants should be kept a little closer directly after potting, but avoid keeping them too much confined. Keep a sharp look-out for the great bane of *Ericas*—viz., the mildew. Upon the slightest sign dust with flowers of sulphur, but keep it carefully away from the roots.

Erica verticillata (fig. 40).—Leaves arranged in fours, linear acute and brilliant green. Flowers pendant, tubular, flame colour, produced in pairs from the axils of the leaves, forming long racemes. Very showy.

E. Austiniana.—This is a very fine hardwood species. Leaves spreading, smooth, and dark green. Flowers produced in large whorls, nearly terminal, tubular, nearly an inch long ;

tubes carmine streaked with white ; neck encircled with a dark band ; segments large and spreading.

E. taxifolia.—An elegant species belonging to the arborescent section, which are very difficult to raise from cuttings. Leaves arranged in threes, linear, smooth, and bright green. Flowers in terminal clusters, globose ; both calyx and corolla rosy pink.

E. Turnbullii.—A superb autumn-flowering variety. Flowers produced in umbels of about six, tubular ; tubes $1\frac{1}{2}$ inch long, reddish pink, becoming much darker when fully exposed to the sun's influence ; neck encircled with a dark band ; segments white, large and spreading.

E. tricolor Holfordii.—A robust-growing variety. Leaves densely clothed with long woolly hairs. Flowers tubular, very large, and produced in many-flowered whorls ; tubes soft flesh colour, with a darker circle round the neck.

E. tricolor coronata.—This variety often flowers earlier than the present month, but we have seen it very fine at this season. Less robust than the preceding. Flowers large and tubular ; tubes rosy pink, with a band of green round the neck ; segments of limb white, spreading.

E. tricolor flammea.—Leaves blunt, recurved, and densely furnished with long woolly hairs. Flowers upwards of $1\frac{1}{2}$ inch long, much swollen at the base, fiery red, changing upwards to white with a green band round the neck ; segments spreading.

E. Marnockiana.—A very fine hardwood species. Leaves spreading, fringed at the edges with light hairs, and armed at the point with a stiff bristle-like hair. Whorls many-flowered, tubular, swollen at the base, destitute of the gummy matter so common to this section ; tubes deep rich blackish purple ; segments small, spreading, white.

E. sulphurea.—Yellow Heaths are not plentiful at this season, and therefore this is a very welcome species. Leaves arranged in fours, hairy. Flowers tubular, also hairy, forming long racemes near the apex of the principal branches, pale yellow.

E. pyramidalis (fig. 41, page 261).—A very ornamental species, both in regard to its mode of growth and to its profusion of flowers. Leaves pubescent. Flowers funnel-shaped, rose-coloured, with a protruding style.

NOTES AND GLEANINGS.

WE regret to hear that the TOMATO HARVEST in Fulham has turned out a comparative failure. Many cartloads of diseased fruits may be seen in some of the market gardens. The disease is of a very bad type ; the plants are taken in the morning and in some cases are perfectly black before sunset. The only chance of securing the fruit from diseased plants is to gather it immediately the disease is seen, and ripen them under glass. In many cases more than half the crops have been thrown away.

— AN excellent judge says that one of the best FLOWER BEDS he has seen this season is at Pendell Court, the seat of Sir G. Macleay, under the care of Mr. Green. It is oval in form, and is strongly suggestive of a bright gem judiciously set. The centre is planted with Tuberous Begonias, leaving a broad band for the purpose of toning and contrast. This is effected to perfection by *Centaurea ragusina*, *Coleus*, *Ageratum*, and variegated Ivy-leaved *Pelargonium*, the whole trimmed off with a margin of *Alternanthera*. The leaves of Tuberous Begonias out of doors are often bronzed to a degree that does not suit the flowers, but at Pendell Court they had the brightest green colour.

— MR. G. MURRAY, Peniarth Gardens, North Wales, writes to us as follows on MANDEVILLA SUAVEOLENS :—"With me this climber has flowered twice this summer, and from the first flowering there are seed pods from 12 to 16 inches long hanging on the plant. It is growing on the south side of the mansion, and has attained the height of 30 feet. I should be pleased to know if it has seeded with anyone before in the open air."

— MR. P. BENNETT, Colebrooke Park, Tunbridge, in reply to "A KITCHEN GARDENER," writes as follows on TOMATOES KEEPING WASPS OUT OF VINERIES :—"Tomatoes planted on the back wall of the vinery have produced a large quantity of good fruit, and I have never seen one wasp in the house, though the Grapes have been ripe for six weeks. The cottage I occupy, which is not 10 yards from the vinery, is and has been swarming with wasps and flies ; and other fruit trees are much infested with them. I am at a loss to account for the wasps keeping out of the vinery except for the presence of Tomatoes."

— RHUBARB, says Dr. Birdwood in his "Handbook to the Indian Court at the Paris Exhibition," is mentioned by Dioscorides as brought from beyond the Bosphorus, and the Rachoma of Pliny, which he says was brought from beyond Pontus. It is a native of south-eastern Thibet and the western and north-western frontiers of China, and is said to be mentioned by Chinese writers B.C. 2700! The Rha, which came into Europe by the ancient caravan routes from Northern China by Bokhara and Asia Minor, was naturally called Rha-ponticum, and that by Russia and the Danube Rha-barbarum. The designations Turkey, Russian, East Indian, Canton Rhubarb merely indicate the commercial channels through which Rhubarb has been derived in modern times. It is a good illustration of the obstructions which are still put in the way of the trade of India with Thibet and Western China, that if the Viceroy and Governor-General needs a Rhubarb pill, instead of getting it at once through the Himalayan passes, he receives it round about by way of Kiachta, St. Petersburg, London, and the Atlantic and Indian Oceans. The Rhubarb now obtained from Hankau is the root of *Rheum officinale* of Baillon, a native of Mongolia; but undoubtedly the true plant, the source of the best Turkey, or Russian, Muscovite or Kiachta Rhubarb, is *Rheum palmatum*, the Sharo-moto of the Mongols and Djemtsa of the Tangutans.

— MR. THOMAS ROWLANDS, foreman at Mr. Bass's gardens at Rangemore, has been appointed gardener to the Viscountess Downe at Baldersby Park, Yorkshire.

— ON the occasion of the visit of the Scottish Arboricultural Society to the estates of the Earl of Mansfield at Scone, as reported in the "Journal of Forestry," Mr. M'Corquodale, forester, pointed out a very effectual mode of preventing the RAVAGES OF RABBITS AMONGST THE YOUNG TREES, by the placing of boards firmly fastened with wire round the stems, and which are removed before the tree becomes too large, and replaced by wire fencing. The boards are about 30 inches in length, 3 inches wide, and half an inch thick, and may be cut of any third-rate timber too small or worthless for any other purpose. Four to six of them can be quickly bound loosely round the foot of each tree, and are as easily removed when the growth of the stem renders it necessary. The method is thoroughly effective, and none can be applied more easily to trees of a suitable size, say 5 to 15 feet in height. Mr. M'Corquodale also stated that while *Abies Douglasii* grows at Scone with great vigour *A. Menziesii* appears this summer to be everywhere decaying, the injury being attributable to late spring frosts.

— LIGHTNING AND TREES.—It cannot be too often repeated at this season of the year, when thunderstorms are so frequent, that one of the most dangerous places in which to seek shelter is under a large tree. Of all the persons and animals killed by lightning probably eight-tenths have been destroyed under or near trees. Oak trees more frequently than any others draw lightning from the clouds, partly perhaps because the close grain of the Oak increases its conducting power, and partly because the sap of the Oak contains a large quantity of iron in solution which, by impregnating the wood and bark, has the same effect. But no tree enjoys the exemption of the Banyan, which, at least as the Hindoos believe, is never touched by lightning. The *Pittsburg Commercial* takes the recent disaster at a picnic near that city as a text from which to give its readers some good advice about avoiding trees in thunderstorms, and makes the practical suggestion that the proprietors of groves frequently rented for picnics and such entertainments in the summer should provide one or more substantial sheds for the accommodation of parties in case of a sudden storm.—(*Mississippi Lumberman*.)

— THE *Queenslander* notes the cutting of a GIANT EUCLYPTUS felled in the Dandenong Range, Australia, that had attained the height of 300 feet. The following were its dimensions:—At 1 foot from the ground the circumference was 69 feet, at 12 feet from the ground the diameter was 11 feet 4 inches, at 78 feet diameter 9 feet, at 144 feet diameter 8 feet, at 210 feet diameter 5 feet.

PIPPINS.

ABOUT five miles to the north of Lewes in Sussex is a village dignified by the name of Plumpton, which being translated signifies "The town amid a clump of trees," a town that would have attracted no notice if in a moated house, still there existant, had not resided Leonard Mascall who is said to have

first introduced Pippins from the Continent. What these Pippins were we have no means of knowing, and we find no clue to discover. Mascall also first brought carp from the Continent into England, and cultivated them in the moat which then was and still is around the house.

Of Leonard Mascall's family the earliest notice in the parish register is "Edward Mascall baptised" in 1592. Of the house in which they resided I could discern no remains but the chimneys, which are of the Elizabethan era. The remainder of the house is more modern. The pond in which Mascall had his carp still remains, and beneath a row of Elms yet existing he probably walked.

Recently a search was made a second time in the registers of Plumpton in Sussex relative to the family of Leonard Mascall in the hope of finding more details, but the search was almost fruitless. The earliest entries in the register are of the births of several females of the family in 1558; and of the burial of Richard Mascall in March, 1569-70. We pub-



Fig. 41.—*Erica pyramidalis* (see page 260).

lished the portrait of Leonard Mascall and all the information we then gleaned in the *Journal of Horticulture* dated January 28th, 1875.

A SUMMER DAY'S STROLL.

THE Heather had opened its flowers into full summer beauty, the month was August, the morning fine when I essayed to fulfil a promise long made to visit the gardens of some of my neighbours to see, mark, learn, and to discuss their doings, their trials, triumphs, and failures. Ashdown Park, Plaw Hatch, and Brambletye were within my reach, and my route was across Ashdown Forest, a forest only in name now, the greater part being denuded of trees—a wild waste of Heather Fern, Broom, and Gorse, extending over an area of some twenty square miles, the last remains of that huge forest, the Andredswald of the Saxons, called *Sylva Anderida* by the Romans, and which in their day extended from Kent right through Sussex into Hampshire for a distance of 120 miles.

On the confines of this waste coins bearing the impress of Agricola and Vespasian were found among some slag of the old Roman ironworks a few years ago; and I have in my possession some pieces of charcoal which I picked out of another heap of slag as it was excavated from beneath a superincumbent bed of

soil, which must be at least fifteen hundred years old, and yet is still so hard as to show the annual growth of wood as clearly as when it was first burnt, a little of the outside only crumbling to the touch. What do the advocates for using charcoal in garden soil think of this slow rate of decay?

Beauty, brightness, freshness prevailed in the forest; the Heather was alive with bees, great cushions of the deep pink flowers of *Erica cinerea* sparkled on many a gravelly hillock, whole acres of the lovely *Erica tetralix* were covered with large pale pink flowers, more delicate and refined than those of many a rare Cape Heath, while there were such quantities of grey Sphagnum as would delight the heart of an Orchid grower. On some of the upper slopes beds of the rare *Gentiana pneumonanthe* with three and four large blue clustering flowers on a stem were just expanding into beauty. Lower down, where springs of water burst out from the hillsides and occasional swamps were seen crowded with mosses, some green, others crimson, with various shades of yellow, orange, and brown. The Sundew (*Drosera rotundifolia*) in full bloom, every leaf a picture in miniature, nestled abundantly among the moss; there were also occasional patches of *Menyanthes trifoliata* (the Bogbean), but I was too late to find any of its exquisitely feathered white flowers, yet it was worth a walk of miles to see the lovely clusters of blue Marsh *Campanula* flowers trailing along the edges of the swamp; and about the centre, quite out of my reach, an occasional Cotton Rush still retained its long white bearded head.

Through this natural flower garden I went, pausing occasionally to watch the cloud shadows sweeping along the wide slopes, to admire fine views which kept opening out between the hills right across to the lofty South Downs bounding the distant horizon. Many a nimble lizard dashed across my path, many a curious insect flitting among the flowers tempted me to stop again and again, for "the forest" is a regular paradise for entomologists as well as for botanists. At length I reach Ashdown Park, and soon find the gardens and the gardener, Mr. Down, with whom I spent a pleasant hour, seeing and talking about matters that will amuse and instruct the readers of the Journal when my notes on Ashdown Park and its garden are published.

Under Mr. Down's friendly guidance sufficiently far to make my way clear through another portion of the "forest," I went on to Plaw Hatch, the seat of W. Arbuthnot, Esq., where I found Mr. McBean engaged in the arduous task of converting a poor thin soil into a fertile garden, and exceedingly well was he doing it. Like most of the new houses that are springing up with such marvellous rapidity in this part of Sussex, Plaw Hatch occupies a commanding position, overlooking magnificent and varied scenery. The building is massive and substantial in character, having a carriage court on the north side of agreeable proportions to the buildings, to which it affords access on the west side, a terrace overlooking a subterranean now in course of construction, and on the south side a conservatory with a level expanse of lawn and beds well filled with summer flowers, and with two exceedingly bold central masses of soft rich velvety *Coleus*. The conservatory was not a large one, but it contained some of the best groups of plants I had seen for many a day. Cultural skill of a high order and facility of arrangement had been brought into play here in a manner that is not by any means common. On one hand, some Palms lent the influence of their elegant frondage to the gay-flowering plants with which they were intermingled; on the other, two or three fine specimens of *Coleus* trained cone-shaped without formality gave richness and warmth to a tasteful combination of other foliage plants of more sober hue. These groups were only two beds of plants in pots, for there was no staging—nothing for the eye to rest upon but the plants; and this, when good taste is brought to bear upon the grouping and such good plants are used, is, I think, the best mode of conservatory arrangement.

From the front of the conservatory the sight was a pleasant one; the gay masses of summer flowers in the beds told well upon the close-mown lawn, which is level among the beds and ascends a slope to shrub beds and borders on the east side, forming so excellent a background to the garden as to cause one to regret it was not continued along the south side, where the lawn is made to ascend several feet by an abrupt slope to another level space, where more small beds were planted with hardy Heaths and dwarf flowering shrubs. Beyond this garden of hardy flowers a path led through more lawn and shrub beds to the kitchen garden—a square plot enclosed with substantial walls, and well cropped with vegetables, fruit trees being

planted along the margins of the paths and against the walls, all in a flourishing condition; a large open water tank in the centre, concrete paths of tar and sand, firm, clean, and pleasant to walk upon in all weather, with a neat edging of tiles, and, pleasant sight, no weeds. There was a range of lofty fruit houses along the north wall—vineries with vigorous young Vines bearing some noble bunches of Grapes of various sorts, and all alike good, those of Muscat of Alexandria being especially remarkable for the golden colour of the large symmetrical bunches. Peach and Fig houses were also satisfactory, every tree in flourishing condition, and most of them beginning to afford some fruit.

Outside the kitchen garden, behind the north wall, were other houses—a long low span-roofed Rose house, snug little houses where late crops of Cucumbers and Melons were just being started, and a large stove crowded with plants so well grown and so rare withal that one could have spent a day profitably among them. I was obliged to rest content with a glance at the noble forms of Marantas, Ferns, and grandly grown *Caladiums*, and to admire the tasteful way in which every inch of space along the margins of the paths and under the side stages was carpeted with a mingled growth of Lycopods, *Fittonia*, *Tradescantia*, Ferns, *Caladiums*, and *Gymnostachyum*. I left Mr. McBean with that pleasant feeling which arises from the sight of work well done and energy well applied; and so on to Brambletye, which lay right before me, full in sight upon the crest of a hill some three miles off.

Brambletye has already been so fully and well described in this Journal that I have now only to tell how everything about the gardens continues to be well done. Mr. Jenks is to be congratulated upon his fruit crops in this year of scarcity. Numerous Plum trees on walls were heavily laden with fruit; Pears, too, on walls had abundant crops, but the greatest wonder was the Peach wall with a simple glass coping projecting from the top of the wall, and to which a canvas screen is fastened to protect the blossom and tender foliage in spring. Mr. Jenks asserts that he always has a crop of fruit by means of this simple agency, and certainly this year he not only has a crop, but enough fruit for two crops; there is the wall 300 feet long completely clothed with healthy Peach wood, all laden from top to bottom with fruit. Other Peaches under glass were also bearing a plentiful crop; the Grapes in the various vineries were all good, but the Muscats were superb, one house full of huge broad-shouldered tapering bunches surpassing anything of the kind I have ever seen. Well-filled plant houses also well rewarded me even for the hasty glance that I could only afford them, for evening was drawing on apace, and the train which I hoped to catch at Forest Row would soon be due—that, however, I was able to dispense with by Mr. Jenks's kindness in driving me back to the old forest again, and thus bringing my day's stroll to a pleasant close.—EDWARD LUCKHURST.

A DAY AT SLOUGH.

"BUT, my dear, sir, you have come at the wrong time; why come now to see us?" This was the first question my genial host and old acquaintance Charles Turner asked as he welcomed me at his charming home the Royal Nurseries. I may reply by another question—When can anyone go at a wrong time to Slough? What season is there when you will not find much to interest you? Winter and summer, spring and autumn, there is always some strain of flowers in season which there may be seen to perfection. During my September visit Mr. Turner's gardens were looking exceedingly gay. All round the house there are beds of Geraniums, Lobelias, Petunias, and other pans, and some annuals were very attractive; these were *For u'cas*, some of which were semi-double. Then there was a very fine collection of Phloxes, which always interest me. The Cannas reminded me of Battersea Park, and the carpet bedding of the Crystal Palace. In one avenue I found a grand collection of Zinnias, and when I turned the corner I came upon a splendid collection of Dahlias. These occupied half an acre of ground, and consisted of show, bouquet, and Pompon varieties. Many of the varieties which I had admired at shows I found whole lines of here. Christopher Ridley, the finest formed Dahlia yet sent out by Mr. Turner, was magnificent, as were also several seedlings sent out by the Rev. Mr. Fellowes.

Mr. Turner showed me also a house 40 yards long filled with a grand collection of Bouvardias, and another with Tree Carnations, which are just now coming in. As for Geraniums there were many thousands, but my host intends to give up

some sorts. "It is no use growing tricolors now; bronzes are a little better, and zonals are only good under glass. Nothing now but carpet bedding and Cannas." Such is Mr. Turner's verdict, and he is the largest Geranium grower I know of.

In one corner of the nursery, in a sheltered spot near houses, are splendid specimens of *Chrysanthemums* 8 feet high, which are to be devoted to the production of large show blooms. In another we find two thousand pots of specimen Carnations.

As we wandered along we came on the giant Rose trees in pots which have won every first prize this year. They were in the open air, and a man was watering them with as much care as if they were in full bloom, for it does not do to leave off attending to these grand specimens for one single day in the whole year. When I visited Cheshunt Mr. Paul's giants were in a cool house, but the Slough specimens will not go into winter quarters so long as fine autumn weather continues. Not far from the Roses were the specimen Azaleas, but these are now under glass. Near this house was a structure devoted entirely to *Maréchal Niel* Rose—fine plants 8 feet high, which command a high price and a ready sale. And then we come on more thousands of Tree Carnations. "We want a million, my dear sir. We could sell any quantity." The specimen *Ivies* trained as pyramids were very fine.

Just prior to my visit they had a regular flood at Slough, consequently the Rose blooms were knocked to pieces, but I saw a grand collection of plants. Mr. Turner's seedling *Dean of Windsor* is a good perpetual. The only yellow Rose which has made a grand pot plant at Slough is *Céline Forestier*. *Maréchal Niel* has been tried over and over again to no purpose, and even *Marie Van Houtte*, which does so well with me, cannot be made to answer as a specimen Rose when grown in a pot. Several thousand Teas in pots looked the picture of health. The wood was well ripened and the growth luxuriant. I noticed six long beds filled with Pinks for forcing. These are taken first into a cold house, and gradually they are accustomed to the forcing house, and then do remarkably well.

Mr. Turner then had his carriage brought round and drove me to several nurseries which surround the town of Slough and belong to him. In one near Chalvey we found 15 acres, half of which was filled with stocks that have been budded this year. First came the *Manettis* which were budded on plants, then the *Manettis* budded on cuttings. "What is the difference?" someone may ask. Every difference, I answer. The cuttings of the *Manettis* are taken and inserted in March, and are then budded in August and September, so that one year is saved. The *Manetti* plants are rooted cuttings which have been planted a year. Then came seedling *Briars* and *Briar* cuttings. The latter are far the best, as they grow straight and are very easy to bud. The former are most troublesome to work. They have to be wiped with a cloth, and a man has to cut many suckers and branches away before he can set to work. "It is no end of a mistake to say that seedling *Briars* don't sucker," said Gaiter, the foreman; "they sucker worse than the *Manettis*, but the *Briar* cuttings are not nearly so bad."

In another nursery we find the standard Roses ready for sending out. These are certainly grand plants, and the wood is very well ripened. In another near the railroad we see the *Manettis*. Nearly all the Roses are growing in maiden soil, and Mr. Turner has about ten more acres waiting to be broken up.

Once more we get into the carriage and drive to Salt Hill, where, close to the famous Inn, Bothams, we find several acres of fruit trees and Japanese Conifers and other shrubs. "I am sorry we have not time to take you to Uxbridge. We have 30 acres there we should like to show you, but we must now go to luncheon." And I am bound to say that the luncheon was in keeping with the nursery, and that I found it an exceedingly nice finish to a charming day.

I hope to visit these nurseries again next summer in the height of the Rose season and please my friend, whose parting words were, "Next time come a little earlier; don't leave us to the last." And if I am alive and well he will not find many weeks in June pass over before he once more sees his gratified visitor—WYLD SAVAGE.

NOTES ON VILLA AND SUBURBAN GARDENING.

FRUIT TREES.—The harvesting of fruit might be considered one of the most enjoyable employments connected with a garden—it is the reward gained for several months of labour and care; but during the last two seasons the generality of the outdoor crops have been greatly below the average. In no case have the

general crops been heavy; we therefore have the more need to take the greater care of that which we have been fortunate enough to possess. The gathering of fruits must now be carried on expeditiously, handling them with great care, otherwise they will bruise and decay quickly.

A perfect knowledge of the variety and the time of its arriving at maturity is a great help to ascertain when any particular fruit is ready for gathering, but it may be taken as a rule, especially with early varieties, that when the fruit parts from the footstalk when lifted gently up by the hand it is ready for gathering. Later varieties which do not ripen until the winter or spring months do not part as freely from the trees, but should be gathered before sharp frost sets in—just as the leaves begin falling. Fruit should always be dry when gathered. The middle of the day and fine afternoons are generally the best times, as the majority of the mornings at this season of the year are often moist and foggy. As the fruit is gathered it should be carefully laid out singly and regularly, which order allows of the quicker and easier detection of decaying fruit, which will frequently be found after it has been gathered a few days.

There can be no better time in the whole season for making a selection of sorts. Those that have been gathered are fresh in the memories of all, and those that are still hanging can be easily judged, and a selection formed by actual experience of varieties that do best in any particular locality. But for those who contemplate additions, or planting new collections, we print a selection of sorts that are in most places good and constant bearers, the fruits also being good in quality. We further advise the planting of duplicates of a few good varieties which have gained favour in all parts of the country rather than a great number of shy-bearing varieties. Trees may be purchased trained as standards, bushes, or cordons. The two latter are the best for small gardens, but the first are indispensable for orchard planting.

Of dessert Apples, perhaps the *King of Pippins* should be chosen first, as it is a very good grower and a most abundant bearer. Earlier and one of our richest flavoured dessert Apples is *Irish Peach*, a medium-sized fruit, ripe during August. Early Harvest is a most vigorous grower and an abundant bearer, and ought to be even in the smallest collections. During the last two precarious seasons this variety has with us been heavily laden. Cox's Orange Pippin is another most desirable variety, as a rule a very heavy cropper and about equal in flavour to the *Ribston Pippin*. The fruit is very handsome and will keep a long time fit for use. With the qualities of the *Ribston Pippin* everyone is more or less acquainted, we therefore cannot omit it from our selection; and in addition for later supplies we shall add *Courtpendu-Flat*, a richly flavoured juicy variety and a valuable dessert Apple of the first quality.

Of kitchen Apples *Lord Suffield* is one of our greatest favourites for early supply. The fruit attains a very large size, and may be gathered from for use while very young. Its fault is its lightness and falling so much when cooked, yet, considering its constancy, earliness, and size there are few to surpass it. *Dumelow's Seedling*, or *Wellington*, is one of our most valuable late varieties, a good bearer, firm, and handsome in shape. *Cellini*, a very handsome and free-fruited variety, an excellent cooker, and when ripe passable for dessert. New *Hawthornden* is another desirable free-bearing variety, in use during the greater part of the winter. To complete our selection of six varieties we name *Emperor Alexander* and *Alfriston*, the first a well-known early variety, and the last a very late-keeping sort.

Pears.—*Jargonelle* and *Williams' Bon Chrétien* are two very early-bearing varieties and well known to everyone. *Louise Bonne* of Jersey is another long-established variety of splendid quality, succeeded by *Marie Louise*, a Pear of the highest merit. *Doyenné du Comice*, *Huyshe's Victoria*, *Buerré Diel*, *Beurré Sterckmans*, *Glou Morceau*, and *Joséphine de Malines* are all good, and will furnish a successional supply over a long period. If there is plenty of room *Catillac* or *Uvedale's St. Germain* may be planted for cooking Pears, but windfalls of any variety may be utilised for that purpose.

Some good Plums for dessert are *Green Gage*, *Transparent Gage*, *Jefferson's*, and *Coe's Golden Drop*; and for cooking, *Prince of Wales*, *Pond's Seedling*, *Victoria*, and *Washington*.

Black Tartarian, *May Duke*, *Elton*, and *Bigarreau Napoleon* are free-bearing Cherries for dessert, while two or more trees of *Morello* should be planted for kitchen use, and when well ripened they make very fair dessert fruit, being large, handsome, and keeping well into September. They are much in request for bottling purposes.

Three good Peaches for a wall are *Grosse Mignonne*, *Noblesse*, and *Bellegarde*; and good Nectarines are *Lord Napier*, *Violette Hâtive*, and *Balgowan*.

All fruit trees like a well-pulverised, enriched, and holding soil; therefore the ground should be deeply broken up at once for some distance around where it is intended to plant the trees, and left prepared until the trees arrive from the nursery, which if the orders are given at once will be as soon as the leaves have fallen off. The earlier in the autumn the trees are planted the better chance have they to emit fresh roots and become established before the

drought of the following spring or summer presses on them. Espaliers, pyramids, or cordons may be planted parallel with the kitchen garden walks, and from pyramids we have frequently seen the leading shoots trained to an arch over the principal paths, forming a pleasing avenue.

WORK FOR THE WEEK.

HARDY FRUIT GARDEN.

LATE Plums are very valuable. Autumn Compôte is in use at the end of September or October, Belle de Septembre follows in October, and Coe's Late Red succeeds. The best of all the late Plums for culinary purposes and for preserving is Wyedale, which usually is not ripe until the middle or end of October; it is very hardy, succeeding in cold localities. White and new large Bullace are not despicable for tarts in late October or early November. Yellow Damask, Imperial de Milan, Bonnet d'Evêque, Blue Impératrice, and Late Rivers are desirable late Plums for dessert. Coe's Golden Drop and Ickworth Impératrice will mostly be ripe now. They should be gathered when quite ripe, placing them singly upon the shelves of a light airy fruit room, where they will keep in condition for some time, some esteeming them most when somewhat shrivelled. Apples and Pears as they become ripe must be gathered carefully, as it is not possible for the fruit to keep if it be carelessly handled. The late gales have greatly injured the Apple crop. The only sorts that have borne anything like a crop this season with us are Keswick Codlin, Lord Suffield, Holland Pippin, Cockpit, Norfolk Bearer, Hunthouse, and Crimson Queen; and Northern Greening, Devonshire Quarrenden, King of the Pippins, and Cackle Pippin are the only dessert kinds with a fair crop. In a future issue we will name a good selection of fruits for autumn planting.

Strawberries.—Plants that were planted out during the summer from the pots in which they had been forced will be setting and swelling the autumn crop, and should be mulched with litter to keep the fruit clean and be netted over. If the autumn be fine they often afford acceptable fruit, which, however, is improved in quality when covered with glass. We have known good fruit obtained by taking up the most promising plants with balls and putting them in rich compost, placing them behind a north wall for a few days, eventually transferring them to a house with a temperature of 50° min., abundantly ventilated. If the plants only promise indifferently in the open for an autumn crop remove the trusses, and clear away all runners so as to afford the crowns every facility to obtain strength for next season's crop.

Watering Strawberries in pots for the coming forcing season must not be neglected; though plants in well-drained soil in the open ground do not suffer from continued rains, yet those in pots are seriously injured by continued needless waterings, especially those required for early forcing, still they must never be dust-dry. Any that have the soil very wet and remain so for a time without watering should have the drainage seen to, as worms or the material upon which the pots are placed choke the outlet, rendering the soil sodden, in which no plants will thrive. The crowns are often numerous in some kinds, especially Black Prince and Vicomtesse Héricart de Thury, a number of small crowns clustering round the central one. The small should be removed so soon as they can be laid hold of with the finger and thumb, leaving the centre or strongest crown. This will concentrate all the vigour of the plant into the chief crown, and though there will be fewer trusses of bloom there is no need to fear a deficiency of crop, and it is essential that a forced Strawberry be large and red.

FRUIT HOUSES.

Pines.—To maintain the sturdy healthful appearance of young growing stock free ventilation is necessary, maintaining the bottom heat about the roots at 80°, watering the plants whenever they require it, employing weak liquid manure occasionally, and avoiding the use of the syringe too frequently; merely sprinkling the paths, &c., morning and evening daily will suffice. Fire heat must be resorted to to maintain a night temperature of 65° to 60°. Newly potted plants should have a bottom heat of 90° to 95°, with a view to the roots speedily penetrating the fresh soil. Recently started suckers should, as soon as roots are plentifully made, be raised near the glass, it being essential that those intended to be wintered in small pots be brought on very gradually. Fruiting plants should have a night temperature of 70°; 80° to 90° during the day, closing at 85°. When the suckers started this autumn are well rooted they should be potted without delay, draining the pots well. Employ the fibry part only of turfy loam, and do not fear it up too fine, but use it in lumps proportionate to the size of the pots. The strongest plants may be transferred to the fruiting pots at once, the size of the pots being proportioned to the robustness of the kinds. Jamaica do well in 9 or 10-inch, Queens in 10 to 11-inch pots, Smooth-leaved Cayenne and similar kinds in 11 to 12-inch, and Providence in 13 or 14-inch pots, which will afford fruit of the largest size. Where smaller plants and fruit are the object aimed at, pots an inch or two less in diameter will answer. The plants not of a size fit for transferring to the fruiting pots should be shifted into 8-inch pots, in which they should be kept until spring and then be transferred to fruiting pots.

Figs.—All the trees in pots outdoors intended for early forcing should be examined to see if any require shifting into larger pots or top-dressing, which should be done before the leaves fall. Except in the case of young small trees it is not desirable to increase the size of the pots, but remove a few inches of soil from the bottom of the balls, cutting back the roots, and replacing the soil removed with fresh. The surface soil must also be removed, removing all the loose portion, and replace with the requisite fresh material, which should consist of turfy loam with about a tenth of old mortar rubbish or road scrapings added, and for the top-dressing a fourth of well-decomposed manure. After this give a good watering, and place the trees in an airy situation under cover before frost or heavy autumn rains set in. The second crop of Figs in the latest house will soon be all gathered, and the trees should be kept drier at the roots; but avoid extreme dryness, which is pernicious; keep the house cool and dry, ventilating fully except when frosts prevail. If any lifting or root-pruning be necessary it should be done as soon as the leaves fall.

FLOWER GARDEN.

Heavy rains, foggy nights, and chilly weather soon work the ruin of the floral display. It is high time to see to the safety of such plants that require preserving. Pelargoniums of the bronze, tricolor, and other variegated-leaved varieties winter very differently if frost-bitten. Suitable quarters should be a low span-roofed house in which the plants can be near the glass, have plenty of light, and a temperature of 45° to 50°. It is undesirable on account of the slow growth of many varieties to head them back; simply removing any crowded growth, and stripping them of the leaves, the remaining shoots may be left at full length with a view to a supply of early cuttings in spring. The green-leaved varieties are more hardy, but they do better taken up before they are much frosted, cutting them well back, the roots being shortened, and potted in pots no larger than to hold the roots. They flower more freely than young plants. To save room they may be cut back and placed rather closely in boxes. We do not save any but the one-year-old plants.

Where it is desirable to preserve the plants in the beds as long as possible some kind of light protecting material must be at hand to throw over them when needed. Succulents, such as Echeveria metallica, Kleinias, Pachyphytums, Sempervivum tabulaforme, and others of that class, are very liable from the vigour induced by planting out to be injured by frost. Either they must be lifted before frost or protected from it, otherwise they winter very badly. Those that have been recently propagated, as well as Coleuses, Iresines, and similar tender plants, should be placed under cover at once.

Hyacinths, Tulips, and other spring bulbs plant without delay. There is nothing like planting early, so as to admit of their becoming well rooted before winter. Many plant late and complain of the bloom, the fact being the bulbs have not a chance, besides the best are gone before the order is given. If manure is used bury it well down, not allowing it to come in contact with the bulbs.

Fill up the gaps in the mixed border caused by the decay of annuals with Brompton Stocks, Wallflowers, and other sweet or gay spring or early summer-flowering plants, transferring biennials to their flowering quarters. Press forward the planting of evergreen trees and shrubs, and so soon as the leaves fall off the young deciduous trees the trees may be planted with advantage, it being better done soon than when the autumn is advanced and the soil wet and cold. Grass appears not to cease growing, though fallen leaves mar its beauty. Keep the broom going if neatness be wanted and roll frequently, mowing at least once more. Walks will require to be frequently swept and well rolled.

PLANT HOUSES.

Greenhouse.—Show and fancy, also spotted and regal Pelargoniums that have been shaken out and repotted, and after that placed in cold frames or pits, should at once be moved into the house in which they are to be wintered. They are best in a house by themselves, elevated so that their tops will not be more than a couple of feet from the glass, and sufficiently far apart to allow the light to reach the lower leaves. When the shoots are 3 or 4 inches long they should be tied out. Afford no more water than to prevent the foliage flagging. If kept wet the plants go too much to leaf. Zonals that have been kept in comparatively small pots for winter flowering should be placed under cover at once in a dry airy pit for the present, where they may remain for a short time before required for flowering, when they should be removed to a light house and have a temperature by artificial means of 50°. Salvias must be housed before frost and have a temperature of 45° to 50°. If kept cold the flowers are liable to fall off. Bouvardias that have been planted out must be carefully lifted and potted, placing them in a cold pit, shading them from bright sun for a few days and sprinkling them overhead, afterwards removing them to a light position in a house with a temperature of 55° to 50°, and they will bloom through the winter. It is desirable to divide such plants as those into batches and introduce them to heat at intervals. Solanums that have been planted out should be lifted forthwith and potted in 6 or 7-inch pots. They do well in light turfy loam, placing them in frames at the north of a wall, keeping the

soil thoroughly wet, or they will lose their leaves. When the potting is recovered from they should be transferred to a light airy position in the greenhouse. Few plants are more ornamental than Solanums with their dark green foliage and orange-coloured fruit. Any Gladioluses that have not yet flowered will, if lifted carefully and potted in 6 or 7-inch pots, be found extremely useful for conservatory decoration. Late Fuchsias should have the seed pods removed as they go out of bloom, and if supplied with weak liquid manure they will continue flowering for some time to come. A few of the forwardest plants of *Daphne indica* may be placed in a house where they will receive a few degrees of extra warmth of 50° to 45°, and they will flower early and be very acceptable. Roman Hyacinths, Paper White and Double Roman Narcissus that were potted some weeks ago will be well rooted, and should, in quantity according to the requirements, be placed on shelves near the glass in a house with a temperature of 55° to 50°, and coming into flower shortly are very useful. This is the worst season for flowers. *Rogiera gratissima* is fine for this time of year; its white sweet flowers are useful for cutting. It does well in turfy loam, and requires a rather warm greenhouse temperature. Tree Carnations must be housed without delay, and to flower freely during the winter months must have plenty of light and a temperature of 50° by artificial means. Callas that have been planted out should be lifted and potted in 7 or 8-inch pots in rich turfy loam, and abundantly supplied with water. Some of the forwardest plants may be placed in a light house with a temperature of 55°, and they will flower early. Plants kept in an ordinary greenhouse temperature will not bloom until spring, but by introducing batches of plants at intervals to heat flowers will be had over a lengthened period. Pot any late-flowering plants of *Anemone japonica alba*, employing some rich compost, standing the plants at the north side of a wall for a few days, then remove them to the greenhouse or conservatory, where they will flower to a late period.

Roses in pots should have a warm situation—all the sun and air possible, with no more water than to maintain the foliage fresh, so that the wood may be thoroughly ripened. If there be any aphid dust with tobacco powder, or if mildew be present apply sulphur, so as to eradicate the parasite, or it will give much trouble after the plants are placed under glass. Some of the Teas will have a plentiful crop of buds in various stages of development. Those placed in a light, airy, cool house will afford buds and blooms to a late period, feeding with liquid manure.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

ADDRESS (A Lover of Rose Shows).—Write to Mr. William Baker, Rose Mount House, Roebuck Lane, West Bromwich, who will endeavour to give you information on the subject of your query of last week.

TENANT GIVING NOTICE TO QUIT (A Sixteen-years Subscriber).—Notice must be given by the tenant six months previously to the expiration of the current year of tenancy, so as to expire at the same period of the year in which the tenant entered upon the premises.

EVERGREEN CLIMBER (Jacko).—The best evergreen for covering a greenhouse chimney is the common Irish Ivy.

POTTING ROSES (Idem).—Roses should be taken from the ground and placed in pots as soon as the leaves fall in autumn. The best compost is turfy loam rather heavy and enriched with a third part of very much decayed manure. Half a peck of bone dust to a large barrowful of soil would render it additionally and lastingly fertile. Drain the pots well, and protect the drainage from becoming choked with the soil by placing over the crocks a layer of clean fibre shaken from the turf. Protect the pots from frost by enveloping them in fern, straw, or similar material, assuming that the plants will remain outdoors for a time after being potted.

NORTHERN FLORISTS (A Cottage Gardener).—It was not stated in the report of Newcastle Show that the florists you name took any prizes at that Show.

FLOWERS FOR NORTH BORDER (Amateur).—Pansies, Polyanthus, and Auriculas would be suitable for a shaded border 15 inches in width in front of a low wall facing north. Of the above flowers many beautiful varieties may be obtained from seed, or named varieties can be purchased from florists. Provided the soil is good Pansies in such a position would flower nearly all through the summer.

CALCEOLARIAS DISEASED (R. T.).—The leaves sent were so dry that they were crushed almost to powder during transit. The flower is a *Rudbeckia*, also much shrivelled. The species cannot be determined by such an imperfect specimen and without any foliage.

CUCUMBER CYPRUS (G. Hawkins).—We consider your Cucumber an excellent one. It appears to be a true cross between Munro's Duke of Edinburgh and Tender-and-True, having the greatest resemblance to the former. It is a rich green in colour, has scarcely any neck, and is very heavy, crisp, and well flavoured. You are justified in esteeming it a valuable variety.

PASSION-FLOWER NOT FRUITING (E. A. W.).—Unless a Passion-Flower growing on an open wall or the side of a house has advantage of a sheltered position fully open to the sun it will not have any yellow seed vessels, but with such advantages and ample wall space it will produce them increasingly with advancing age.

DWARF IRISES (Idem).—There are so many really good varieties of dwarf Irises that a selection of the three best is more a matter for individual taste

than for our decision. We may, however, take the sweet-scented *reticulata* of a deep violet colour, blotched with golden yellow, and growing about 9 inches high; *persica*, also a fragrant variety, white blotched with purple and yellow; and the pale yellow *caucasica*, with white-margined foliage.

TOMATOES BLIGHTED (Idem).—Disease among Tomatoes cultivated in the open air is now of annual recurrence. The only remedy is to grow-on a few plants in pots early in spring so as to have most of the fruit set before turning the plants out in the open air; then, by high feeding, pinching, and pruning of lateral growth and full exposure of fruit to the sun most of it may be gathered before adverse weather sets in. A surprising number of fruits may be picked from half a dozen plants under high culture, quite enough to supply the wants of a tolerably large family.

OWN-ROOT ROSES (Berley Heath).—The instructions to which you refer for converting Roses worked on short Briars into Roses on their own roots should be carried out immediately the leaves fall from the plants in autumn.

VINE STEMS NEAR HOT-WATER PIPES (C. D.).—The Vine stems are much too near the hot-water pipes. They should be at least a foot from them. The pipes should be removed to a greater distance. Probably the deficiency of growth in some of the Vines is a result of a deficiency of water. It would be advisable to have the front wall arched and allow the roots to pass out as they certainly will, a proper border being made for them.

SOIL FOR RHODODENDRONS (Idem).—Peat is most suitable, but they thrive admirably in turfy loam with a liberal admixture of leaf soil. Indeed Rhododendrons grow well in most soils except those containing limestone and soils of a very poor sandy nature. Rhododendron *ponticum* var., and *R. catawbiense* vars. are most desirable for extensive planting. A few select late-flowering varieties are—*Scipio*, The Warrior, John Waterer, Toward, Faust, Lady Dorothy Nevill, Barclayanum, Archimedes, Jenny Lind, William Downing, Papilionaceum, Purity, Vandyke, Sir Thomas Acland, Lord Elgin, Michael Waterer, Neige et Cerise, Lady Lopes, Madame Miolan Carvalho, Atrorubineum, Alarm, and Charles Dickens.

FIRS FOR PLANTATION (Idem).—The Corsican Pine (*Pinus Laricio*), is the quickest grower of all; it with Scotch Fir and the Austrian Pine succeeds admirably in exposed situations. The Norway Spruce and White American Spruce also grow quickly.

PEAR TREES LUXURIANT (Idem).—The best way of checking their luxuriance and inducing fruitfulness is to root-prune the trees, which should be done as soon as the leaves have fallen. If the trees make much wood too many of the roots must not be severed, or the future growths of the trees will be seriously affected. Root-pruning requires to be done judiciously even by experienced hands.

FRUIT TREES FOR SMALL GARDEN (W. X. Y.).—*Dessert Apples*: Kerry Pippin, Cox's Orange Pippin, Margil, and Scarlet Nonpareil. *Kitchen Apples*: Keswick Codlin, Cox's Pomona, Cellini, Warner's King, and Hanwell Soring. *Pears*: Williams' Bon Chrétien, Fondante d'Autonne, Doyenné du Comice, Winter Nelis, and Bergamotte Espéren. *Plums*: Early Rivers, Victoria, Autumn Beauty, Green Gage, and Cox's Golden Drop. *Cherries*: Empress Eugénie, Governor Wood, Kentish, and Morello. *Figs*: Brown Turkey and Brunswick. *Peaches*: Early Rivers, Grosse Mignonne, Dr. Hogg, and Barrington. *Nectarines*: Lord Napier, Stanwick Elrige, Pittmaster Orange, and Pine Apple. *Apricots*: Kaisha and Peach. *Currants*: Knight's Large Red, White Dutch, and Black Naples. *Raspberries*: Prince of Wales. *Gooseberries*: Early Sulphur, Pittmaster Green Gage, Warrington, Ironmonger, and Red Champagne. *Strawberries*: Garibaldi, President, Dr. Hogg, and Frogmore Late Pine.

CLIMBING PLANTS FOR COVERING A HOUSE (Idem).—*Lonicera brachy-poda*, *Ampelopsis Veitchii*, *Berberidopsis corallina*, *Ceanothus azureus*, *Escalonia macrantha*, and *Jasminum officinale*. There are a host of other climbers—Roses, Clematises, several more Honeysuckles, &c. If you want berry-bearing climbers for winter take *Cotoneaster microphylla*, C. Simonsii, and *Crataegus pyracantha* with brilliant orange berries. The proposed arrangement of the garden is good. As you are fond of hardy flowers let the 8 feet border in front of the Privet hedge be specially devoted to them. A few groups of shrubs well placed on either side of the lawn will make a pretty vista from the house to the croquet ground, and flower beds may be made on the lawn, but we should prefer the turf, with flowers fringing the shrubs. The best of all shrubs for planting beneath the large Elms are Hollies and Rhododendrons. When once established they will hold their own against the roots of the large trees, and no shrubs are more ornamental.

WINTER PLANTS FOR RUSTIC BASKETS (Basket).—There are many ways of making such basket beds ornamental in autumn, winter, and spring. They may be planted with bulbs, such as Crocuses, Snowdrops, Hyacinths, Tulips, and Scillas, with a surface planting of hardy succulents; but we prefer a bolder style of treatment, and would have an outer row of well-matched plants of *Erica Fœxii* kept a little way apart and 3 or 4 inches from the edge, so as to afford space for an intertwining chain of the bright silvery-leaved *Eucynon radicans variegatus*, inside which should come a ring of *Erica carnea*, already bristling with flower buds, and a central mass of *Iris fœtidissima*, with its elegant flag-like foliage and pendant pods of scarlet berries, which are in full beauty throughout winter. If you cannot readily obtain those plants, plant the vases as you suggest, intermingling with the shrubs the bulbs named.

CLIMBING DEVONIENSIS ROSE (Holly Lodge).—We advise you to plant the fine plant you have obtained of this Rose. It produces charming blooms, but not so profusely and continuously as some other varieties. In the list to which you refer we were limited to particular colours and plants to be grown for a special purpose.

SEEDLING PEACH (D. Morris).—The fruit to which you refer has not arrived.

BELLADONNA LILY NOT FLOWERING (J. W. S.).—We can only account for this plant, also *Crinum longifolium*, *Sternbergia lutea*, and *Agapanthus*, not flowering through their not having attained sufficient strength. We presume they are planted out on a warm border, and abundantly supplied with water during growth, especially the evergreen *Crinum* and *Agapanthus*, the latter having protection in severe weather.

APPLES AND PEARS FOR ORCHARD (J. W.).—*Apples*: Irish Peach, Worcester Pearmain, Cox's Orange Pippin, Duchess of Oldenburg, Emperor Alexander, Cox's Pomona, Dumelow's Seedling, Cellini, and Lady Henniker. *Plums*: Early Rivers (Prolific), Gisborne's, Prince Englebert, Victoria, and Wyedale. *Pears*: Jargonelle, Beurré de Capiaumont, Williams' Bon Chrétien, Louise Bonne de Jersey, and Marie Louise.

PROPAGATING PILEA MUSCOSA (Paddle).—It is propagated by cuttings, which strike freely at any time of the year in gentle heat or in a stove, keeping them moist.

RAISING PRIMULA JAPONICA FROM SEED (Idem).—We experience no difficulty, merely sowing in pans so soon as the seed is ripe, just covering it with fine soil and keeping it regularly moist. It is perfectly hardy; seed vegetates as freely as *Polyanthus* seed if sown so soon as ripe on a shady border. We presume your seed has been old, which does not vegetate freely, often not until a year after sowing. Procure plants, and you will soon have a stock by saving the seed and sowing as advised.

DAHLIA PARAGON.—"W. B." says that is not new, for he has grown one so named for nearly fifty years. They may not be the same varieties notwithstanding. We have known flowers totally distinct called by the same name in different localities. Send us a bloom by post.

GRAFTING (R. Bickum).—"Fruit Gardening for the Many," published at our office, contains directions for grafting. You can have it free by post if you enclose six postage stamps with your full directions. A small pamphlet by Mr. D. T. Fish, entitled "Grafting and Budding Fruit Trees," is also published at the *Bazaar* office, price 1s.

PRUNING TACSONIA (Idem).—Cut it back to 2 feet in spring, and secure strong shoots from near the base for covering the wall, and there will then be no difficulty in securing shoots for the roof.

LOBELIAS FAILING (W. G.).—They fail either from poverty of soil, a deficiency of water, or excessive rains. We find that by selecting the best-habited plants and deepest-coloured flowers for seed that the seedlings come quite true, and usually grow more freely than cuttings. Lobelias have not done well this year. The drought in July caused a cessation from growth and the production of seed, and the showers of August caused many plants to decay. They are not wanted for carpet beds, and are not now employed in such beds in any of the London parks.

WINTERING ALTERNANTHERA AMENA (A Five-years Subscriber).—It should be taken up before frost, potted, and kept in a temperature of 55° to 50°, with sufficient water to keep the foliage from flagging. The tuberous-rooted Begonias should be kept with the soil just moist, inclining to dryness during the winter, in a cool house; but if space be a consideration they may be taken from the soil after the leaves and stems fall, and stored away in damp sand in a cool place safe from frost.

GROWING VINES AND FIGS IN POTS (Idem).—There is no objection to your growing Vines in pots on one side of the house and Fig trees in pots on the other, the latter not having the Vines directly over them, confining the Vines to the south side of the house.

NAME OF TREE (W. D. H.).—*Taxodium distichum*, a native of North America, from whence it was introduced in 1640.

NAMES OF FRUITS (M. S. K.).—1, Hollandbury; 2, Dumelow's Seedling; 3, not known; 4, Lucombe's Seedling; 5, Devonshire Buckland; 6, Robinson's Pippin. (*Shrewsbury Hall*).—1, not known; 2 and 3, Marie Louise; 4, Comte de Flandre. (*T. W.*).—1 and 2, Royal Russet; 3, Sykehouse Russet; 4, Ashmead's Kernel; 5, Winter Greening; 6, Sweeny Nonpareil. (*W. G.*).—1, Either Northern Greening or Lemon Pippin, we think it is the former; 2, Baldwin; 3, Russet Table Pearmain; 4, not known; 5, Elford Pippin; 6, Northern Spy. (*Juvenile*).—1, Barcelona Pearmain; 2, Beauty of Kent; 3, Selwood's Reineette. (*A. G. S.*).—A, not known; B, Dumelow's Seedling; C, Jersey Gratioli; D, decayed, but probably Fondante d'Automne; E, Cockle Pippin; F, Brownlee's Russet. (*J. R. P.*).—The green one is Ori's; the yellow one Manks Codlin. (*E.*).—We cannot possibly name forty specimens. Our rule is to name six only, and we cannot go beyond that number. *Pears*: 2, Beurre diel; 3, Duchesse d'Angoulême. *Apples*: 123, Gloria Mundi; 133, Dumelow's Seedling; 120, Blenheim Pippin; 122, Cellini.

NAMES OF PLANTS (W. H. F. B.).—We cannot identify plants from their leaves only. (*Lancashire*).—1, *Rivina levis*; the Ferns are without spores; 4 seems a variety of *Peris cretica*. (*Norfolk*).—1, *Polygonum cuspidatum*; 2, *Spiraea Douglasi*. (*M. D. D.*).—A Vine of some kind, but the specimen is insufficient. (*R. T.*).—*Boussingaultia baselloides*. (*A. B. C.*).—Specimen much too young. (*C. T.*).—*Lastrea sp.* (*E. E. E.*).—*Genista monosperma*. (*A Subscriber*).—*Amelanchier Botryapium*.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

THE CULTIVATION OF WHEAT.

(Continued from page 250.)

THE preparation of light soils for the wheat crop now demands our attention, and under the designation of light land we must include gravelly, sandy, and thin chalk soils. The two first-named soils will require different management from the last-named, and we will therefore refer to the preparation of the two first named. The usual course adopted is the four-course—first, roots; second, Lent corn; third, clover and grass; fourth, wheat. The wheat will therefore be sown after one ploughing-out of clover lea, except in case of failure of the clover, in which case the land would be sown with an early sort of pea, so that the land may be nicely prepared for wheat by scarifying before laying out the dung. It is best to lay-out the dung upon the clover lea, and dress the peas eddish with 3 cwt. of Peruvian guano sown broadcast, and harrowed-in just before the wheat is drilled. Let us suppose, however, that the clover lea is perfect. Upon these soils we do not wish to sow the wheat very early because it is usual to carry a large flock of sheep, and although it may be right on the loamy land to plough-in all the flag or late grass which may arise after harvest, yet upon these light

soils it is advisable to feed the clover lea bare, and instead of looking to the vegetable manure where the late growth is ploughed under, it is preferable to look to the manure left by stock after feeding. In this light land, too, the clover ploughed-in would make it too light and more subject to depredation by the wireworm and the plants thrown-out by frost, whereas if fed close before ploughing the land would settle down firm and give a better seed-bed for the wheat. In this land the season for ploughing and sowing may often be deferred until the latest period, say from November 14th to the 10th of December, for upon such land if it is liberally manured and the young plant just shows above ground before Christmas it is early enough. It is not subject to the growth of weeds when drilled thus late. Ploughing and pressing must be the rule, and sometimes when the land is very dry Crosskill's heavy or the Cambridge ring-roller may be used before harrowing and preparing for the drill. When sown thus late from two and a half to three bushels of seed per acre will be required, for it is sure to suffer more or less from larks, rooks, &c., which prey upon the grain as soon as it germinates. The distance between the rows is of some consequence, because upon sandy land and also upon gravelly land some annual weeds such as the poppy, the marigold, &c., will make their appearance in the spring, when it will be necessary to both horse and hand-hoe in some seasons.

We will suppose that the clover lea has been dunged, but if not there is no better dressing than 3 cwt. per acre of Peruvian guano sown after the presser. It will then be properly buried, and deep enough by the action of the harrows to benefit the wheat plant to the fullest extent without feeding the surface weeds. It often happens that the best guano contains portions and lumps as hard as rock; but we get this broken at the bone mill, because when the men at the home farm are set to break it the work is often badly done, and one lump which ought to dress half a rod of ground will destroy all vegetation within reach of its influence, on account of the concentrated action of the ammonia it contains. The sorts of wheat adapted to light land will vary according to the climate, because we have some of these light lands in almost every county or district. In the eastern and southern counties white wheat will do well, such as Morton's White and several sorts of white wheat propagated and grown as Hallett's Pedigree; but in the western, northern, and some midland districts the coarser red or brown varieties answer best, such as Golden Drop, Browick, Red American, or Spalding, together with some of the Red Pedigree sorts.

In preparing yard dung for application to these light lands it is a good plan to have a portion of clay or strong loam mixed as compost. This is often done by making a bottom for the manure heap and covering also of clay, &c., so that when turned-up together it makes a very beneficial compost for light land. But the best of all ways in making such a compost is to have the strong loam used as a bottom for the farmyard, and also for all pens where either horses, cattle, or pigs are kept. In this way the whole of the manure is obtained and retained in admixture ready to go upon the land when wanted. We have on various home farms used with the best advantage in this way upwards of 150 cartloads of earth in a year. We would further remark that these dry soils do not require to be early ploughed, for unlike heavy land they are benefited and consolidated by the heavy autumnal rains peculiar to our climate previous to being ploughed.

The treatment of dry chalk soils forms the last division of our subject, and it will be found to some extent to differ from the cultivation before described for other lands. Still upon good substantial loams resting on chalk where the climate and aspect are good, the management will be very similar to that before described for dry loams. Yet upon the chalk hill farms in various counties where climatic influence is adverse, and which we now propose to consider, is somewhat peculiar. Home farms are often of small extent, particularly of arable land, but we know various farms which are attached to park lands of considerable extent and capable of carrying a flock of breeding ewes numbering

from five to six hundred. It used to be the plan on such holdings not to sow wheat oftener than once in six or seven years, and even then producing only a very moderate crop. Since the extended use of artificial manures, however, upon these high and dry soils, root-cultivation has so much improved and increased that rotations like the four-course have been found to answer almost as well as upon some of the better lands more favourably situated. The culture for wheat is, however, different, and where large flocks of sheep are kept eating oil cake and corn upon outlying lands it is very encouraging to know that oil cake and artificial manures answer a better purpose and return a better percentage upon the outlay than some more naturally fertile soils. Wheat not only succeeds clover lea, but also turnips fed-off by sheep. In fact, the sheep are the chief vehicle for manure on this hill land, being close folded on the clover leas before ploughing and pressing; the dung made by the horses, cattle, and pigs maintained at the homestead being laid upon the land nearest to the home farm buildings.

The clover lea should be ploughed early—August is none too soon—in order that the land may have time to settle and become firm and stale, and thus prevent the wheat plant being thrown out and becoming root-true, as it is very apt to do upon these loose and hollow soils. The time of sowing likewise should be earlier than upon any before-named soils to prevent blight at harvest. We have noticed especially two different systems, carried out side by side upon similar soil on a chalk hill farm, one farmer sowing early, sometimes during the month of September, the other sowing the last week in October or early in November, and we have seen the early-sown produce capital wheat both in quantity and quality, whereas the later-sown gave a full bulk of straw, but was seriously blighted and with defective grain. The system of maintaining large flocks of sheep, together with other circumstances, induces farmers to change or alternate the clovers, taking half the lain of broad clover and half in trefoil, to be reversed in the next course. In case of the trefoil it is either cut for lamb hay or fed early with sheep. In either case it is ploughed up at or before midsummer, and then sown with turnips or rape, or both in admixture, all the manure intended for the wheat crop being applied before the turnips, &c., are sown, so that as much of root food as possible should be obtained for sheep, and thus increase the manure for wheat. The land, however, should be carefully ploughed and pressed for turnips, which are often destroyed by wireworm upon this hollow soil. After the turnips, &c., have been fed off by sheep it is a very common practice to plough the land before sowing the wheat; but we prefer to scarify only, in order that the land may have the full advantage of the treading of the sheep whilst feeding off the turnips, so desirable upon this chalk soil. Sometimes we have known wheat take very well when it was not intended to be drilled by sowing before the plough, the ploughing being done very shallow and fleet, which is sure to bury the seed well, and also it prevents the plants being thrown out in the winter. The great point in successful cultivation upon these light and loose soils, whether the seed has been drilled or ploughed-in or sown after the presser, is that the land should be trodden by sheep immediately after sowing, the plan being to carefully drive them in regular courses across the field, and when the weather is very dry they may with great advantage be driven over the second time in the opposite direction to the first drift. This necessary work is usually done by the use of dry sheep, such as tegs or lambs; but upon those farms where no dry stock are kept the in-lamb ewes may be used for the purpose, except that more care is required by driving them steadily without worrying by dogs. In concluding this subject we have one general remark to make, which will apply with great force upon all the white land chalk-hill farms—that in cultivating for all crops the scarifier only should be used either by steam or horse power, except in the case of clover or saintfoin leas, which will of course require to be ploughed and pressed, with the surface roots well tucked under in the act of ploughing with the skim coulter.

WORK ON THE HOME FARM.

Horse Labour.—Now the seed time for wheat is so near at hand horse labour will be employed in different ways in preparing the land for wheat. Where the early turnips have been fed off on the heavy and loamy soils the ploughing, drilling, harrowing, &c., will be going on. Upon the lea ground the dung will now be drawn out, spread and ploughed and pressed. Upon light soils with full-sized upstanding horses this work may be done with two animals attached to a double furrow plough. This will be good economy, with the presser following, being drawn by one or two horses according to the weight of the presser. In some cases if the weather is dry it will be necessary to roll with the ring roller as well as harrow the land before drilling, because the land cannot be made too close and firm. The carriage of recently thrashed wheat or barley to the mill or the railway station will employ some of the horses upon the home farm. Some horses will be required in drawing coals and water when thrashing corn is going on of ricks made in the fields. Some horses will also be employed in harrowing, dragging, &c., upon the land recently scarified either by steam or horse power, so that the grass and weeds which may

have been brought to the surface may be got together by the chain harrow and then carted away to heap, there to rot for future use in various ways. The horses will then have finished all the work required upon the autumn fallows, except the fallow ploughing to be done after the wheat seeding is completed. The odd horses will find employment by carting hurdles, &c., for the shepherd, in carting early turnips to the homestead for the fattening cattle, also carting vetches and oats where they have been grown in succession for horses and dairy cows, as the grass if not gone is becoming stale on the pastures. The clovers, too, are affording a cutting this year in many cases where sown in the wheat and oats, and this may be continued in use until the frosts commence without injury to the horses, especially if they are allowed a full allowance of corn with some extra chaff.

Hand Labour is still various. Hedges must be finished trimming; the dung must be spread upon the wheat land; men must assist in finishing off the straw ricks and carting away the hulls where thrashing has been done; straw ricks for sale or for fodder should be carefully thatched. It is now too late for hoeing root crops, but in consequence of a long succession of stormy weather there are many weeds. These should be pulled by hand by women if they are to be had for work, otherwise by men. At this time many changes of farm servants will be taking place, such as teamsmen and shepherds as well as casual labourers; and the matter of hiring will require great care and discrimination on the part of managers of home farms in the present temper and disposition of the labouring classes. Even in those cases where there are cottages to accommodate all the men required upon the home farm, yet men of good character only must be engaged; and in case they have no strong working lads in their families it is well where there is room in the cottages to arrange with them to lodge young working fellows which may be engaged for working upon the farm, and these should be hired by the year in order to insure a sufficient staff of workers at the most important times of the year. This is an important matter, too, for the young men themselves, as they may learn all kinds of farm work and avoid a roaming and roving habit of life when engaged by the year.

CAMBRIDGE ORNITHOLOGICAL SOCIETY.

SEING in a contemporary that there will be no Oxford Poultry Show this year, it may interest some of your readers to know that an Exhibition of Poultry, Pigeons, Rabbits, and Cage Birds is intended to be held in the New Corn Exchange at Cambridge, under the auspices of the Cambridge Ornithological Society, the proposed date being November 6th and 7th, prizes being for open competition. The New Corn Exchange in Cambridge is one of the most evenly lighted and best suited buildings in England for the purpose, having a glass roof with unobstructed light from windows on both sides, and is well heated by hot water. Cambridge in itself is one of the most convenient of towns for railway accommodation. The Great Northern, the Great Eastern, the London and North-Western, and the Midland Railway Companies all have a station. Hampers can be booked through to Cambridge from all parts, and each company will deliver free of extra charge to the Corn Exchange, and have booking offices within 200 yards of the building where they receive parcels or hampers. The telegraph and post offices are within 300 yards. It is to be hoped all fanciers will do their utmost to assist the working Committee to make this undertaking a success. All who wish to encourage the undertaking should at once correspond with the Secretary, Mr. R. Peters, jun., Accountant, 30, Bridge Street, Cambridge, as there is but little time to get through the requisite arrangements.—FRANK J. R. NUNN, *Clare House, Chesterton Road, Cambridge.*

THE HEMEL HEMPSTEAD POULTRY SHOW.

HEMEL HEMPSTEAD was *en fête* on Thursday and Friday. We never remember having seen the whole population of any place so thoroughly interested in a show. The days for it were judiciously selected, the first being market day, the second the day of the annual flower Show; we believe, too, that it was the first poultry Show that had ever been held in the neighbourhood. This added to the fact that the famous contest of incubators had for twenty-one days been going on in the town, and terminated at noon on the first day of the Show, created an extraordinary amount of interest in the affair. The weather was lovely, and the streets were bright with flags, arches, and Venetian poles. Perhaps not the least attraction was the electric light; we were not ourselves able to stay to see its effect, but saw full preparations for it. The history of its use there is interesting as showing the extraordinary care with which every arrangement for this Show was conducted. It was originally stated in the schedule that the birds would not be shown by gas light. This arrangement we cordially approve, as we have known great damage done to birds by gas. Meanwhile the energy with which the scheme was carried out caused greater interest to be taken in the matter than could possibly have been anticipated. Many whose daily occupation would not

allow them to get a sight of the Show wished to do so, and begged to be allowed an evening view. How could this possibly be managed without gas? The enterprising Committee solved the difficulty by ordering at great cost the lighting of the buildings by the electric light.

We confess to having become rather tired of the sameness of poultry shows, the novel features of this one were therefore particularly pleasing to us. We feel sure that other committees will take hints from it. The exhibition of cockerels and pullets in pairs yet in separate pens was a decided success. It obviates all scuffling in the pen, and enables a judge to have a fair look at both birds apart. But we must proceed to particulars. The major portion of the birds were shown in the Drill Hall, but the entries so far exceeded expectation that a marquee annex was added communicating with the hall.

The local classes came first, and very good they were for local classes. The special prize of six guineas went to a wonderful pair of *Dorkings*, the hen not very good in feet, still such a pair as might win at the Crystal Palace. The first pair of *Brahmas*, too (Lights), must have been very near for this honour. The winning *Crève* cock, too, struck us as magnificent, but his partner was poor in crest.

In the open classes *Dorkings* came first, as they should. All the prizes went to Darks, the Silver-Greys shown not being first-rate. The cockerel in the first pen and the pullet in the second were wonderful birds. The third-prize pair far exceeded all others in size, but are lighter in colour than the now fashionable birds, and so many judges would have preferred Mr. Burnell's highly commended pair. *Cochins* were not all round a fine class, though the winners were excellent. First were a pair of Buffs, the cockerel immense and the pullet beautiful in shape and even colouring; second some of the most sheeny green Blacks we have ever seen; third good, a shapely White. A pair of Partridge, the pullet of which was superb, were disqualified on account of the singular state of the cockerel's wing. The whole of the secondary wing feathers were either absent or very short, and the latter were obviously coming perfectly twisted, and would when full grown cause the wing to be deformed. *Brahmas* were not well matched as a class, there being several ill-assorted pens. The winners were all good. First were Darks, too heavily hooked, but the pullet a beauty of the softest Silver-Grey hue; second and third were Light, both good in quality. *Game*.—First and second were capital Piles; the cockerel in the second pen was undubbed; Black Reds were third. *Polands* were a very good class of eighteen entries, and included all three varieties. A very superior pair of Golden took first prize. *Hamburghs* were a good class, though many were out of condition. *Langshans* had eight entries. We hardly know what to say of them. We know that the Judges did their best to make their awards according to the standard of the Langshan fanciers, but rumour said that the third-prize pair were nearly related to some well known Black Cochins. *Sultans* were a very poor lot, several hens being hump-backed. The Judge withheld first prize. The second pair were generally by far the best, though the pullet showed a tinge of colour in the breast. They were five-clawed, as were, we think, the original lot imported by Miss Watts; all the others shown had four claws. *Spanish* were, as a class, rather behind, though the first pair were generally good, but wanting a little in drop. *Houdans*.—The winners were all good; the rest not remarkable. In *Crèves* again the prize birds were all good, though several otherwise fine cockerels in this class were inclined to have wry tails. *La Flèche* were a poor lot. *Leghorns* multiply and improve. There were eighteen entries, and few bad birds. First and second were beautiful Whites, very free from any yellow tinge; third capital Browns. Mr. Bradbury's birds were penned after the awards were made, but just in time for a high commendation to be given to a good Brown pair. *Andalusians* were decidedly good. The first and second cockerels were both splendid birds, the general carriage of the first being rather the best, and their make well worthy of them. The pair of first winners at the Staffordshire Show had to be content with a high commendation. Any other Variety were not a very large or remarkable class. First were a fine pair of Malays, second Silkie, and third Dominiques. The Selling Class was for single birds of either sex, a good Spanish cockerel winning first; a bargain for someone.

Time failed us to do justice to the *Pigeons*. We saw in a hasty glance that in Pouters some of the best known winners were beaten. Jacobins were a large and capital class, an excellent Red first. Fantails were in singularly good condition for the time of year. First had a wonderfully round tail and fine carriage. In Turbits a well-known Yellow and Blue were first and second, Mr. Raper third with a Black clean in thighs. We fancied all his birds were sold the other day at Stevens'. In the variety class an Agate Tumbler and a Blue Runt were first and second.

The visitors to the Show seemed many, and included a number of leading fanciers, who were the guests of Mr. Peel at Abbots Hill. It seemed to us that the wonderful management of the Show, down to the minutest details, was firstly owing to the energy and generalship of the Rev. H. R. Peel, and secondly to the fact that the Committee were a real working Committee.

We must not omit to mention that the £25 prize for the most successful incubator was won by Messrs. Christy & Co. of Fenchurch Street, whose two machines hatched an extraordinary number of chickens. A report of the incubators and their workings will be given elsewhere, so we will not at present say more about them.

The staff of Judges was large for the numbers of entries. Their labours were thus divided:—The Rev. George Raynor took the local classes of poultry; Mr. O. E. Cresswell the Dorkings, Cochins, Sultans, Leghorns, Andalusians, Any other variety, and Selling class; Mr. M. Leno the Brahmas, Game, Polands, Hamburghs, Langshans, Spanish, Houdans, Crèves, and La Flèche; Mr. F. Esquilant the Pigeons. We must not forget to mention that the Show was held under the patronage and rules of the Poultry Club.

INCUBATORS AT HEMEL HEMPSTEAD.

THE first competition of incubators ever held terminated at twelve o'clock on the 26th ult. at Hemel Hempstead. There were a few incubators exhibited at the Dairy Show at the Agricultural Hall a year ago, but there was no competitive trial, the incubators being brought in just before the show opened, and exhibited in working order or not at the option of the inventor. At Hemel Hempstead, on the contrary, the incubators were started three weeks before the date of the poultry show, and during that time were under the sole care of a manager appointed by the Committee. There have been some opinions expressed that the owners should have had the option of managing their own machines, but we think nothing could be fairer than the conditions under which the trial was held.

There is no doubt that some of the more complicated machines might possibly have furnished better results had they been in charge of their inventors, but we think that an incubator to be of any practical use should be sufficiently simple to be worked by any ordinarily intelligent person. We may congratulate the Committee on having had such a place as the Waterworks at their disposal, as it was in every way fitted for such a trial, and also on having been able to place the incubators under the care of such a competent manager as Mr. Twig, who, being an engineer by profession, was especially suited to take charge of them.

Seven incubators were entered for competition—one by M. Voittellier, and two each by Messrs. Christy, Penman, and Boyle. One of each of the machines invented by Messrs. Penman and Boyle was worked by hot water heated by gas and the other by lamp. Messrs. Christy's and Voittellier's machines were worked simply by pouring in hot water at stated intervals. One of Mr. Christy's incubators was the most successful, having hatched by twelve o'clock, September 26th (the time fixed for the conclusion of the trial), thirty-four out of forty-five fertile eggs, or about 75 per cent. Mr. Christy's second machine came next with 44 per cent. The only other successful exhibitor was Mr. Boyle, who hatched a small number in his gas incubator. In our opinion the total failure of Mr. Penman's and the partial failure of Mr. Boyle's machines were owing to the regulators being of such a complicated nature that the true working of every part could not always be depended on. M. Voittellier's failure we believe was owing to the directions given for the management of his machines, which were very scanty, and we think rather doubtful on one or two points.

With regard to the winning machine it was certainly as simple in theory as possible, but we think the trouble of procuring the necessary quantity of boiling water twice a day for several weeks will prevent its being of practical use to many who have not the time and accommodation necessary at their disposal. In conclusion, we wish to tender our congratulations to the Hemel Hempstead Committee on the success of the first attempt at an incubator competition, and trust we may soon have another contest under similar conditions, as we think a more perfect machine can be introduced than any yet exhibited.—R. E. HORSFALL.

SILVER-GREY DORKINGS.—May I once more appeal through your columns to the fanciers of Silver-Grey Dorkings for subscriptions towards a cup for the best adult cock or hen of the breed at the forthcoming Crystal Palace Show? I have already had 21s. given me by Mr. T. C. Burnell. My address is for the present —O. E. CRESSWELL, Windlesham, Bagshot, Surrey.

VARIETIES.

"THE agricultural returns for Great Britain," writes Mr. James Caird to the *Times*, "show a small increase over last year in wheat and barley and a decrease in oats. The extent under wheat has increased by 50,000 acres. Estimating Ireland at a little over last year the total area of wheat in the United Kingdom will be nearly 3,400,000 acres. From the general appearance of the crop on the ground, and trials by thrashing already made in various parts of the country, there can be no doubt that the wheat crop now being harvested is a full average, and the best

we have had for some years. The increased average and the additional produce will afford us 11,500,000 qrs. for consumption. We shall require 13,000,000 qrs. more, for which we must look to our foreign commerce and to our Indian and colonial supplies. During the past harvest year, now drawing to a close, we shall have imported upwards of 15,000,000 qrs. of wheat and flour. This is the largest import we have ever received; it has kept the price reasonably moderate, and the surplus has come mainly from the United States. The latest advices from that quarter show that, while the great crop of 1877 is not yet exhausted, the prospect of the present crop is much less satisfactory. In France the wheat crop is believed to be below an average, so that we are likely to meet our nearest neighbours in the market as buyers rather than sellers. There is thus much probability of the present price being maintained, and, perhaps, slightly increased, but there will be no scarcity."

— MR. JOSEPH ALEXANDER, Imlick, Carrigans, Londonderry, writing to the *Irish Farmers' Gazette* under date 26th August, 1878, describes potatoes as being "a grand crop; nothing like it so far as appearances yet go since 1845, and ground being in so dry a state a large portion of the crop is likely to keep sound. To give a comparison of this year's crop with that of 1877 the statement might seem somewhat exaggerated. Take a Cunningham acre, yielding four tons in 1877, and this season yielding twelve tons: the nutritive value of one ton this year being equal to that of two tons of 1877, would make one acre of 1878 equal to six acres of 1877. This may seem rather startling at first sight, but a little thought of those who have had the experience will convince them that the comparison of the two seasons is doing full justice to 1877. Of course much depends on the next few weeks of this year." Very much: and we almost fear that Mr. Alexander is over-sanguine in his estimate, but hope not.

EXAMINATION OF STOCKS.

Of all the months of the year September is the most suitable for a thorough examination of stock hives, the best month to finish feeding and let the bees settle down to the quiet and rest of winter. It is also a good time to examine hives with a view to ascertain if they are quite clean and healthy and free from foul brood. Generally speaking, hives then have hatched out all healthy brood, and if some cells remain with lids to them we have good reason to suspect the existence of foul brood. Almost all diseased and foul brood is sealed up—i.e., covered up with lids, which are rather scooped or concave in shape, much resembling the lids of honey cells.

Last week I examined all my stocks, when I found seven of them rather short of bees and one affected with foul brood—a swarm of last year. On discovering the foul brood the hive was condemned, the bees driven into a small empty hive, which will be fed into a stock at an expense of 3s. only, for the swarm is small. The hive yielded to-day 6 or 8 lbs. of good honey, which will be sold at 1s. 4d. per pound. The bees were shaken out of the affected hive by giving it three good thumps on the board, and then partly covered with the small hive. The bees outside ran into the hive. The honey was speedily taken and run into a jar in one of the vineries. Afterwards I saw the queen and three bees at the bottom of the hive slightly daubed with honey. She was at once carried to the swarm, which was in a state of great commotion without her. I placed her on the board at the door of the hive. In an instant of time the bees that first saw her gave the signal and the sound that the lost one was found, and they began to be merry.

But what about the seven hives short of bees? Well, I wrote to Mr. Addey in Lincolnshire to send 12 lbs. more of condemned bees to strengthen them (I had received twenty swarms, 100 lbs., of him to feed into stocks already). He sent 16 lbs. of bees in three swarms or separate lots. They arrived late in the evening. Having come a long way by rail they were hungry and jaded. They were taken by candlelight into one of the vineries and fed. Next morning before daylight they were taken to the apiary—at least, two lots were taken there and placed in front of the four hives to receive them. The third lot was placed in a remote corner of the garden, away from the other hives. The three hives meant to receive them were not together, but separate among the other hives. They were all allowed to fly about during the next day. About 5 o'clock P.M. the stocks to receive the bees were well fed with good syrup strongly minted, which was poured over their combs and then dusted with grated nutmeg. In about a hour after these hives were turned upside down, and the strange bees were cast into them like peas or corn from measure to measure, and over them a handful of chopped thyme was cast. These precautions were taken to prevent fighting and the loss of bees. I am happy to say that not a battle was fought, not a bee killed. Each of the hives got about 2 lbs. of bees, or ten thousand in number, which have made them strong stocks. The mint and thyme used helped much to effect a peaceful and happy union. Any strong-smelling substance would, I fancy, answer the same end if it over-mastered for the time being the

peculiarity of smell belonging to each swarm of bees. For the sake of experiment I will some day try assafoetida, which gives off a very strong and offensive smell.

The twenty swarms that I am feeding into stocks have not had syrup enough yet. Owing to the mild weather we have had of late bees have been out a great deal, and therefore have consumed much food. What a mistake the Swiss clergyman made in asserting that a large swarm of bees does not eat more food in winter than a small one! And what a strange thing it was that so many advanced English bee-keepers believed his statement!—A. PETTIGREW.

THE STEWARTON HIVE.

MR. PETTIGREW contributes an article on the Stewarton hive (see page 233), which I regret to say is most inaccurate both as regards its description and mode of management. It is really a rather unpleasant task to be required so frequently to demonstrate that "the captain on the paddlebox" is out of his reckoning, but the old craft must be steered straight at all hazards.

We are told "Two boxes octagonal in shape, 6 inches deep and 15 inches wide, with two honey boxes 4 inches deep, all with cross bars, make a Stewarton hive." It actually consists of at least three, not two, breeding boxes, 14, not 15, inches wide, with as many honey boxes as required, all without cross sticks. The slide space is not half an inch but three-eighths, which the merest tyro in bee-keeping knows is the unvarying width betwixt combs. I have wrought that hive successfully for the last twenty years, and have never before heard, much less have seen, the "crown board" upon it of which your correspondent dilates. The bar and slide is no innovation of the last ten years, but has been its sole crown board for seventy years. The slides are never shifted from the top of the upper breeding box to the honey boxes as your correspondent described, "with free access from both first and second floors to the attic," which is on no account allowed. Mr. Pettigrew is very far astray in stating "the queen can go into the super as often as she pleases without hindrance." She is strictly debarred therefrom by the central slides being kept always closed. This has been from the first, and still is, one of the best features of the hive, without which slides neither Mr. Pettigrew's straws nor any bar-frame hive I have yet seen, if we except the Lanarkshire frame hive, which has slides, can be wrought on the Stewarton principle. Stewarton colonies are not wintered in one box as Mr. Pettigrew supposes, but in two. The third box added in spring is not an empty box, but the combed box removed in autumn: hence his remarks as to drone comb are beside the mark, this "faulty feature" having no existence save in his own imagination. Neither is he happy in the depreciatory comparison as to the Stewarton form. "They resemble a lot of American cheese boxes or a bundle of riddle rims" he says, but must confess I have never yet seen either American cheese boxes or riddle rims of octagonal form; to my eye both articles would come in more suitable as ekes for big straw skeps. Mr. Pettigrew is, however, perfectly right that the Stewarton hive is not so generally well known as it ought, although the number of sets turned out annually is immense, several makers having almost constant employment in their manufacture, executing private orders; hence its sale is not freely advertised nor pushed.

How the Stewarton so far excels the big straw skep system I will endeavour to state on a future occasion.—A. RENFREWSHIRE BEE-KEEPER.

ARTIFICIAL COMB FOUNDATIONS.

YOUR new correspondent, Mr. Todd, has given us his experience as to the value of the recently introduced wax sheets artificially formed for comb foundations. He says he hopes to see his convictions of their value endorsed by myself and others after "experiment next spring." I am happy to be able already to endorse them by my past experience in the current year. Logic and fact are all in favour of this singularly useful and most ingenious discovery. Let these wax sheets only be fairly tried, and it is impossible for any sane person to gainsay their utility and economic use. From long experience I am convinced that Mr. Todd is far too liberal to his opponents (if he has any) in taking that "5 lbs. of honey go to make 1 lb. of wax." Presuming that the pound of sugar contains at least as much fatty or waxy matter as the pound of honey, I long ago came to the conclusion that it required somewhere about 20 lbs. of sugar at the very least to elaborate 1 lb. of wax. Anyhow, taking Mr. Todd's extremely "safe" calculation, he has fully proved his case on the ground of economy of material. I see that Mr. Pettigrew advises the disuse of all comb whether old or recently constructed. So recently as the middle of September he repeats his suggestion of the "desirability of having the combs in the stock boxes renewed every season," and adds "I am sure that this suggestion will in process of time be universally approved." I do not know how this may be, but I am equally sure that unless bee-keepers avail themselves of the help of these comb foundations, the waste of honey required every year to replace the old combs then discarded

will be found to be ruinously great. If, however, Mr. Pettigrew simultaneously adopts the new ideas, which have proved themselves logical facts of great value, there may be some foundation for his certainty as to the general yearly boiling down of old combs becoming the rule in bee-keeping.

Last autumn I bought a quantity of comb foundations (I think it was from Mr. Lee of Bagshot), about 2 inches deep. It was rather brown stuff, nor did I think much of it when I got it. However, one of my sons and I used it largely. A good deal of what I used fell down from the bars to which it had been affixed, owing to the weight of the swarm of bees suddenly clambering upon it. This I had to remove, but a considerable quantity of it is now part and parcel of the comb of the hive. It was freely used by the bees. One of my sons was more fortunate than myself, owing to his more dexterous method of applying the comb to the bars. Hardly any of his foundation comb fell down, but most of it was utilised in a very satisfactory manner by his bees. We are both so satisfied of the great advantage of this (to us) great discovery that we have just ordered a quantity more of Mr. Abbott's make, intending to make great use of it next year. Our hives for next summer are in course of preparation, and will all be supplied with these artificial helps. If next year's results are as promising as this year's experience leads us to hope they will be, we shall provide ourselves with a comb-making machine, and our condemned old combs will enable us to provide the wax material for the new artificial combs at a minimum of cost.

Mr. Todd remarks upon the "perfectly straight" combs which are insured by the use of these artificial comb foundations. This is a most important matter, by no means the least advantage of their use.—B. & W.

IMPROVED STEWARTON HIVES.

In reply to inquiries a description of the boxes which I employ may be useful, and enable your contributors to order what they require. My sets of Stewartons consist of three octagon stock boxes, each 7 inches deep and 14 inches in diameter, inside measure. They contain eight bars. The four central bars are framed, and with the bars on either side are $1\frac{1}{2}$ inch wide. The outside bars alone are $1\frac{1}{2}$ inch wide. The central frames are invaluable, enabling the apiarian to overhaul the hive whenever it is requisite with very little trouble, which with bars alone is not so easily accomplished. Supers are usually 4 inches deep and contain seven bars $1\frac{1}{2}$ inch wide.

The bees occupy either one or two stock boxes during the winter according to circumstances. Last winter out of three stocks one was allowed to retain two boxes, the others were reduced to single boxes.

The lower boxes when removed are carefully put away in a dry place well wrapped up to exclude moths and vermin, and are restored to their respective colonies as soon as the increasing warmth of spring enables the cluster of bees to expand and advantageously occupy a larger domicile.

When working a Stewarton hive all the slides are withdrawn between the stock boxes, so that the three form one hive with free communication between all the combs. As a rule only the outer slide on either side is withdrawn between the stock and the first super, and this is a most essential point in the management, as by this means chiefly is the queen excluded from the supers. If the central slides were drawn and a check occurred in the honey-gathering, the queen would almost certainly find her way into the supers and quickly commence filling any empty cells with eggs; the workers following suit would carry up pollen, and thus the purity of the super would be destroyed. As fresh supers are added at the top of the pile all the slides are withdrawn from the super beneath. You have thus a hive in two compartments, three stock boxes with free communication, where the bees rear brood and store all their pollen, and three or four more supers with equally free intercommunication, but cut off from the stock everywhere except where the withdrawal of the outer slides has opened a communication. Under these conditions I have invariably found the supers to contain nothing but pure virgin honeycomb.

Mr. Pettigrew thinks that the stocks ought to be broken up every year. My first Stewarton colony was established in 1874 (a single swarm hived in two stock-boxes). In 1875, a wretched season, I only obtained 27 lbs. super honey; 1876, 144 lbs. of super honey and 6 lbs. of slung honey; 1877, 63 lbs. of super honey; 1878, 57 lbs. of super and 7 lbs. of slung honey. The hive now contains a pure Italian queen bred last summer (1877), and is thoroughly prosperous, and the stock boxes are not clogged with a superabundance of pollen.

Next summer I shall probably remove the combs from the upper stock box after the conclusion of the honey season, and compel the bees to refill it with new combs, and if a second box is served in the same way the following season the hive will be quite equal to a new stock. It must be borne in mind when estimating the honey obtained from this single colony that we have no heather from which to obtain a second harvest, and this is by no means a specially favourable locality, as white clover

does not abound in the permanent pastures, and clover root is almost the only crop upon which we have to depend.—J. E. BRISCOE, *Albrighton, Wolverhampton.*

OUR LETTER BOX.

SOWING TARES (*M. Surrey*).—The sooner you get your winter tares in the better; no time must be lost, though not yet too late.

INDIGO BLUE BIRD (*Henry F. Foy*).—The blue bird you refer to is, no doubt, a species called the Indigo Blue Bird, several of which we have seen at exhibitions. The bird is about the size of a Sparrow, of robust appearance, with an entire blue plumage, and apparently as hardy as a Canary.

BERKSHIRE PIGS (*A.B.*).—It is not unusual to find such white marks as you describe on animals that are regarded as pure.

THE STEWARTON HIVE (*C. R. R.*).—This hive is made by Mr. James Allen, carpenter, Stewarton, Ayrshire, who charges from 20s. to 25s. for a set of two 6-inch boxes and two 4-inch supers, with a bundle of slides. No floorboard is sent with the boxes. Any country carpenter could easily make copies of this hive with one by his side.

FASTENING WAX SHEETS IN GROOVES (*E. S.*).—Embossed wax sheets are obtainable from Messrs. George Neighbour & Sons, 149, Regent Street, London. They are cut into strips, and after gently heating, what is intended for lower corners is rounded-off to prevent twisting and in imitation of the form in which the bee builds its comb naturally, is then set in the groove or saw cut found in the centre of each frame or bar, as the case may be, of a well-made Stewarton. Beeswax can be heated in a teacup, and, when liquid, with a teaspoon a little stream is run down either side of the sheet held perpendicular in the groove. When cool it is firm and sustains the weight of any number of bees.—A. RENFREWSHIRE BEE-KEEPER.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. $51^{\circ} 32' 40''$ N.; Long. $0^{\circ} 8' 0''$ W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.						Rain.
	Barom- eter at 32° and Sea- Level.	Hygrome- ter.		Direction of Wind.	Temp. of Air at 1 foot.	Shade Tem- perature.		Radiation Temperature.		In. sun.	On grass	
		Dry.	Wet.			Max.	Min.	In sun.	On grass			
1878.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	deg.	deg.	0.073
Sept.		54.7	51.6	S.	53.4	60.3	42.6	74.3	37.2			
Oct.		54.4	48.4	N.W.	53.4	60.9	40.6	108.8	36.5			0.030
We. 27	29.722	54.7	51.6	S.	53.4	60.3	42.6	74.3	37.2			0.073
Th. 28	29.976	52.4	48.4	N.W.	53.4	60.9	40.6	108.8	36.5			0.030
Fri. 29	29.103	55.7	52.1	N.W.	53.1	62.9	43.3	97.3	39.4			—
Sat. 30	31.124	53.3	57.9	W.	54.1	67.3	54.7	83.5	50.0			—
Sun. 29	30.066	52.8	52.3	W.	55.0	66.6	49.6	100.7	46.8			0.080
Mo. 31	29.695	57.6	53.7	W.	55.5	64.5	49.4	107.9	43.6			—
Tu. 1	30.029	54.3	51.4	N.	55.2	64.2	50.3	99.6	47.2			0.017
Means	29.994	55.3	52.5		54.3	63.8	47.2	96.0	43.0			0.220

REMARKS.

25th.—Fair but rather misty morning, showery and dull the rest of the day; heavy rain at 8.5 P.M.
26th.—Misty morning; fine, bright, rather cool day afterwards; starlight evening.
27th.—Dull damp day, temperature warmer; dark night.
28th.—Fair but rather dull close day, much warmer than last few days.
29th.—Very misty in morning; afterwards fine and warm; quite a summer day.
30th.—Sharp shower 6.15 A.M., high wind at 7.45 A.M.; fine breezy day.
Oct. 1st.—Fine bright morning, cloudy in afternoon; damp night and dark.
Pleasant autumnal week, with a sharp squall on Monday morning.—G. J. SIMONS.

COVENT GARDEN MARKET.—OCTOBER 2.

Good samples of Grapes will now be in demand, but second-rate qualities will not improve in value till the Dutch are over. Pears are selling well, the supply generally being short. Some good samples of late Peaches are still to be had.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	1	s.	2	0	to 4	0			
Apricots.....	dozen	0	0	0					
Chestnuts.....	bushel	0	0	0					
Figs.....	dozen	1	0	3	0				
Filberts.....	£ lb.	0	8	1	0				
Cobs.....	£ lb.	0	8	1	0				
Grapes, Lothouse	£ lb.	0	9	6	0				
Lemons.....	£ 100	6	0	18	0				
Melons.....	each	1	0	to 4	0				
Nectarines.....	dozen	0	0	0	0				
Oranges.....	£ 100	8	0	16	0				
Peaches.....	dozen	4	0	12	0				
Pears, kitchen..	dozen	0	0	0	0				
dessert.....	dozen	2	0	6	0				
Pine Apples.....	£ lb.	3	0	6	0				
Walnuts.....	bushel	5	0	8	0				

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	dozen	2	0	to 4	0				
Asparagus.....	bundle	0	0	0	0				
Beans, Kidney..	£ lb.	0	3	0	6				
Beet, Red.....	dozen	1	6	3	0				
Broccoli.....	bundle	0	9	1	6				
Brussels Sprouts	1 sieve	3	0	4	6				
Cabbage.....	dozen	1	0	2	0				
Carrots.....	bunch	4	0	8	0				
Capsicums.....	£ 100	1	6	2	0				
Cauliflowers....	dozen	3	0	6	0				
Celery.....	bundle	1	6	2	0				
Coleworts.....	doz. bunches	2	0	4	0				
Cumbers.....	each	4	1	0	0				
Endive.....	dozen	0	2	0	0				
Fennel.....	bunch	0	3	0	0				
Garlic.....	£ lb.	0	6	0	0				
Herbs.....	bunch	0	2	0	0				
Leeks.....	bunch	0	2	0	4				
Lemons.....	dozen	1	0	2	0				
Mushrooms.....	pottle	1	6	to 2	0				
Mustard & Cress	punnet	0	2	0	4				
Onions.....	bushel	2	6	3	0				
pickling.....	quart	0	4	0	6				
Parsley.....	doz. bunches	2	0	0	0				
Parsnips.....	dozen	0	0	0	6				
Peas.....	quart	0	9	1	0				
Potatoes.....	bushel	3	6	7	0				
Kidney.....	bushel	5	0	7	0				
Radishes.....	doz. bunches	1	0	1	6				
Rhubarb.....	bundle	0	0	0	0				
Salsify.....	bundle	0	9	1	0				
Scorzonera.....	bundle	1	0	0	0				
Seakale.....	basket	0	0	0	0				
Shallots.....	£ lb.	0	3	0	0				
Spinach.....	bushel	2	0	4	0				
Turnips.....	bunch	0	6	0	4				
Veg. Marrows..	each	0	2	0	4				

WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 10—16, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.			
10	TH	T. A. Knight born, 1758.	61.6	43.3	62.4	6 17	5 17	4 35	5 19					14	12 58			283
11	F	Sale of Nursery at Potter's Bar.	61.7	42.4	52.1	6 19	5 15	4 48	6 28					14	13 14			284
12	S		59.2	41.4	50.3	6 21	5 12	5 4	7 39					16	13 29			285
13	SUN	17 SUNDAY AFTER TRINITY.	60.7	41.8	51.2	6 22	5 10	5 24	8 50					17	13 43			286
14	M	Fire Insurance must be paid.	59.9	40.5	50.2	6 24	5 8	5 51	10 2					18	13 57			287
15	TU	Royal Horticultural Society—Fruit and Floral Com-	59.0	40.5	49.8	6 26	5 6	6 27	11 10					19	14 11			288
16	W	Sale of Bulbs at Stevens's Rooms. [mitties at 11 A.M.	59.0	40.1	49.5	6 27	5 4	7 16	0 a 11					20	14 23			289

From observations taken near London during forty-three years, the average day temperature of the week is 60.6°; and its night temperature 41.4°.

PLEASURES OF HARDY FRUIT CULTURE.

It is but saying again what I have often said—"Increase your knowledge you increase your pleasure." But why do we often say the same things? why say them over and over again? Simply because we feel their truth. The belief in the mind, or the heart, prompts the tongue to speak; we must speak, we cannot help it. Life must be very dreary to one who has never exerted his mental powers, to one who has never cared to know many things. I grant that a man often succeeds in his calling who knows that, and that only. I knew a blacksmith so devoted to his trade that he went to the Great Exhibition of 1851 and made straight for the place where different kinds of horseshoes were to be seen, and having carefully examined them returned home contented, having only given a passing glance to other things. He was a very good blacksmith, but he would have been none the worse if he had learnt to appreciate other things besides horses' shoes. Tree, bird, flower, all contribute to our pleasure in proportion to our understanding them. I do not wish to be egotistical, and merely mention things that others may be benefited, but the plan I have followed for many years of always having something on hand which I am mastering in its details has added much to my happiness, and has often taken away that monotonousness which I have known people say is apt to be felt in the country. I would recommend people, in the country especially, to have on hand, as I generally have, two sources of interest at the same time—one for outdoors, another for indoors. Winter is coming, long evenings will soon be ours; take up, then, some subject which during those long evenings you determine to fathom, or some series of writers of the same period; this I have often done and with profit. Or pursue indoors the literary part of a subject, while outdoors in the summer you carry on the practical part. Books on gardening, or some branch of it, for indoor study. I saw it noticed lately that had Peter Cunningham lived in the country he would have been a Gilbert White, and produced a history like that of Selborne; or had Gilbert White lived in town he would have written a "Handbook of London."

But to come to my immediate subject—that of the pleasure of cultivating hardy fruits. We cannot all grow Orchids, we cannot all grow high-class hothouse plants, we cannot all grow (how I wish I could) hothouse Grapes, we cannot all manage—for as an eccentric old friend of mine used to say, "the Chancellor of the Exchequer forbids"—to gaze up at our own Muscats and Lady Downe's, or even Black Hamburgs; but we all with even a small garden can manage to grow hardy fruits.

As to the form in which to have the trees. I am speaking as an amateur, I would most decidedly say let them be pyramids, for these reasons—they are far prettier, they take up less room, and are so manageable; besides the fruit is not blown down. Winds must be high indeed to catch more than the mere top of a pyramid. Other forms may be used at times; thus an espalier turns a corner nicely,

and may be planted so as to screen from view a compost or manure heap, doing the duty of a Privet hedge with much more profit. A standard Pear tree comes in well to hide a high building or fill up a corner where nothing is wanted to grow. In such places a graceful, and even at times a majestic, Pear tree looks admirable. Also I would not object to a Scarlet Siberian Crab standard on a lawn, where also in some old-fashioned gardens may be seen one in one corner and another in another, a Quince and a Medlar; and I would say, Why not? Of course if you have an orchard on grass the standard is the form. Then if you have walls make use of every foot; Plums are best there, and Cherries too, besides the regular wall fruit. Half-standards suit well in some gardens, but if you go in for the pleasure of the thing, and some profit too, take to pyramids; you have variety of foliage and growth readily seen level with your eyes—some have large leaves, some smaller, some upright growths, some diffused. My eyes fall with pleasure upon this great variety. There standing before me is a Soldat Espere Pear which grows, pillar-like, straight up, and I seldom pass it without thinking of Mrs. Browning's line—

"The Cypress stood up like a church,"

and much like it is this Pear tree. Then next is a great pet of mine—Beurré Hardy, with its clear sea-green leaves, each leaf curved back, and this tree also grows upright, but diverse, though somewhat like its neighbour. Then there is big burly Beurré Diel, and large strong-growing Beurré d'Amanlis. Contrasting well with this stands graceful, delicate, small-leaved Winter Nelis, always on a shiver, Abele-like. That valuable winter Pear Bergamotte Espere has another kind of upright growth; while Summer Doyenné, Beurré Giffard, and Madame Treve spread wide with good dark foliage; while Seckle grows so round that it reminds me of a pegtop Beech.

Nor are Apple pyramids less different in ways of growing. Lord Suffield, delicate-shaped; Duchess of Oldenburgh, with almost red wood for its branches; Irish Peach, upright and regular in throwing out its arms; though none grows so accurately in this respect as Cox's Orange Pippin, which with the utmost regularity on each side of its upright stem sends out its miniature limbs, so that even a non-pomologist has paused and said, "How regularly that little tree grows!" Summer Golden Pippin, again, grows pleasantly to the eye; while New Hawthornden, with large, grand, dark leaves and wood, is most distinct and ornamental. Dumelow's Seedling, that best of winter cooking Apples, grows very regularly and rarely crosses its branches or incommodes itself with too much wood, but firm, long, lower branches to its top makes naturally a well-arranged and pleasing tree, one easily recognised by the grey specks on its bark. There are other trees that do not certainly please the eye nearly so much, and some seem over-slender for their fruit. Quite the contrary, however, to this are those fine strong-growing, sturdy, and upright, yet trusty, pyramidal Apple trees Cellini and Ecklinville. This individuality of fruit trees, seen to such advantage when they are grown as pyramids, is to my mind both interesting and pleasing, and gives distinctness to sorts, so much so that sometimes I can fancy I am looking at different kinds of

trees. But not alone are the trees interesting from variety of form and growth, but they please variously at different seasons. Those in winter from the form of the trees; in spring from early leaf and blossom; in summer and autumn from fruit and the changing hues of foliage.

No one can enjoy anything without bestowing care upon it, or as an idle man would say, "without a lot of trouble;" but this is a benefit according to my view, so that the thing enjoyed be not too exacting upon time and attention at awkward times. If a man makes hardy fruits his hobby he will not find it troublesome in the above respects. He may leave home for a while and not be heartbroken by finding his trees gone to rack and ruin, for a few days or weeks even will not cause this catastrophe. Neither is the chilly rheumatic man in terror when he sees the thermometer going down and about to touch freezing or go far below that. He need not mind; his pets are "hardy," no muffling up and off to "those Grapes." Sometimes when I have been coming home at night I have met the unfortunate owner (at such times he seemed unfortunate) going off lantern in hand, and his breath steaming in the frosty air before him, to "those houses," where he has been obliged to stay cold and shivering while I have been warm and cosy beneath the eiderdown. None of this miserable discomfort for me. My trees are—I repeat it—quite hardy. What care I for frost? Nay, I like it, for it will keep the blossom buds back. Spring comes, and, O ye readers of poetry! have ye never read of the beauties of Apple blossom? Talk of flowers, where are more lovely flowers? Rows of well-trained pyramid Apples are as charming to the eye as any bedding plants, and lines of pyramid Pear trees are like lines of miniature Horse Chestnuts. Then autumn comes, or in late summer time the fruit begins to show; and what more beautiful than an Irish Peach Apple when ripe, or, better, a pyramid well covered with these rich-coloured Apples? Then think of the form and colour of that beautifully striped Duchess of Oldenburgh. I might mention other Apples. But passing on to Pears: in them there is great variety of form to be found and difference of size, and in some richness of colouring. The Pear beats the Apple in the grace of form, the Apple the Pear in colouring. Is there no pleasure in gathering "the kindly fruits of the earth?" I think there is much. He who feels not grateful to the great Giver as he personally gathers the rich ripe fruit must have a hard heart indeed.

But the pleasure is not limited to one's own trees and fruit. The gardens and orchards of others have stores of pleasure for the man or woman who cultivates understandingly fruit trees. When I am driving through near villages and by gardens I notice what Apple is that, what sort of a Pear such a one is. This summer I paid a visit when at Stratford-on-Avon to the home of Shakspeare's wife. I own the orchard attached to that house of Ann Hathaway had its share of interest to me, especially one huge Pear tree which dated back to the last century perhaps, and which crowds of famous pilgrims had seen. But this taste brings pleasure in town as well as country. I am quite inclined to flatten my nose, schoolboy-like, on the window of the fruit shops, to see better by getting a closer view of the treasures piled up inside. I know no shops for beauty of fruit more remarkable than those at Ryde in the Isle of Wight, though I half fear some of the magnificently coloured fruits there seen are not grown in England. Bath too has splendid fruit in her (she is the queen of the west) shop windows.

A few words to finish this paper in the way of caution in order to avoid having your pleasures diminished in the cultivation of hardy fruits. First, beware of the jobbing gardener if you ever employ one. He will want to persuade you to let him cut off the lower branches of the pyramids, for this selfish reason, that he can better work under them. Sometimes a jobbing gardener will, without asking leave, take and cut off tier by tier the lower branches, thus utterly spoiling the trees. I saw recently the whole of the pyramids in a lady's garden ruined in this way: they looked like besoms stuck in the ground, so completely had all branches been removed except those growing upright at the top. Prevent such a catastrophe at all hazards; and remember these trees do not want working under or the ground digging, as the roots are and always ought to be close to the surface. I allow nothing but a hoe to be used, and hand-weeding is even better. Then don't over-prune. Cut out, of course, crossing branches—close-cut these; but as to endless pinching back and the rest, all ends in growing a thicket of useless wood. Remember trees must be kept thin for the light, air, and sun to get through them entirely and freely in summer as well as winter.

The bird trouble is sadly on the increase. All fruits this year have been attacked, and outdoor Grapes devoured. Bird protection has been romantically carried too far. Sense, not sentiment, should rule in this as in all other matters. Let me, however, not damp any ardent fruit-grower's spirits, for we have comparatively few troubles to face and few disappointments to meet. If you feel discouraged remember the beautiful fruit on the table cooked and uncooked: wives are pacified, children delighted, and papa's hobby voted capital for all.

Winter is coming on. Procure fruit catalogues from the leading fruit nurserymen; study them, you may learn much from them. Make yourself a present of Dr. Hogg's "Fruit Manual," and work at that of an evening: 'tis a bulky book and requires study, and will pay for close attention. Then when next year comes with its spring, summer, and autumn you will the better understand the pleasures in store for you in cultivating hardy fruits.—WILTSHIRE RECTOR.

FORCING VEGETABLES.

ASPARAGUS.

THE time is again at hand when vegetable forcing will call for attention. With good appliances it is an easy matter to have a supply of nearly every kind of vegetable throughout the winter that will submit to forcing; and even where there is no grand forcing house a fair quantity of produce may be secured by a little scheming and some trouble. Those who study to make the most of their conveniences always try to fill up every available corner with something or other, and by this means a large quantity of stuff may often be had with little expense.

In forcing it is very necessary to have one light and one dark place, and both heated in some way. Hot dung and hot water both serve good purposes. Asparagus may be forced with either; we do it with both with equal success. The hot-bed is that which could be most used as a rule, because there are few people who have a kitchen garden of any extent but who have something or other with which to make a hotbed, and there are many good gardeners with no hot-water-heated forcing house.

Where the hotbed will be resorted to during the coming winter no time should now be lost in preparing the bed if very early Asparagus is wanted. As the leaves are beginning to fall off the trees now all the best of them should be secured and placed in a heap. Grass cuttings should be secured in the same way; and just when the Asparagus growths are beginning to assume a withered appearance a quantity of stable litter and manure should be added to the leaves and grass, the whole being well mixed together and then made into a bed to suit any sized frame that it is desired to place on it. The bed should be made very firm, and the less of it exposed to wet the better. Indeed the margin of it outside the frame should be closely covered over with boards to throw off rain, as the heat of all hotbeds declines too fast when exposed to the cold winter rains. A one-light frame will hold as many roots as will supply several dishes, and where the demand is small no more than this should be put in at once. The bed may be made up about a week before the roots are lifted, and about 2 inches of soil should be spread over the surface inside the frame. When the roots are lifted they are simply packed close together on the top of this soil and covered over with about 2 inches more of light soil; they are then watered, the lights put on, and further than putting the lights down a little to let the steam escape on a fine day they require no further attention. The produce may be had ready for cutting in a month after the roots have been placed in the frame. We have cut in November twelve days after lifting the roots, but then they were in the bed of a Cucumber pit with hot-water pipes underneath them. In forcing the roots in this structure they are treated in all respects as in the hotbed, only they require more water, as the bottom soil is spread over the dry stones at the bottom of the bed. Some vegetables do not give so much produce when forced in autumn and winter as they do when the days are lengthening in spring; but the Asparagus is not one of them, as it yields just as much in November and December as in March and April. This was our experience of it last November and in previous years. Good roots from four to twelve years old force readily, but we do not prefer them either younger or much older than that.

We never make use of any roots after they have been forced, as we do not think it is profitable; and considering the ease with which Asparagus plants can be raised from seed, the best

way is to sow a quantity of seed every other year, and always have a nice batch of strong young roots coming forward.—
A KITCHEN GARDENER.

THE ROSE ELECTION.—No. 3.

I THANK "WYLD SAVAGE" for his kindly notice of the election. However galling to him, the Rose, it is satisfactory that to him, the man, the table and contents are of interest; if they are so to him, they are still more likely to be to those who are not so well up in the subject, and for whose special benefit I consider they are meant. Catherine Mermet is not, however, this year in the first twenty-four, seeing she is No. 28, and I, with "WYLD SAVAGE," wonder she is as low; but the election of last year, "delusive" as it was, placed her No. 20, so that I am rather at a loss to gather the source of his comfort. Can it be that he rejoices that that lovely Rose is eight pegs lower this year in an election that "is neither a delusion nor a snare to him?" As to Gloire de Dijon, I may say that I do not consider this glorious and kindly Rose has fair play for exhibition purposes. It loves to give us quantities of bloom at all seasons of the year; thus treated, is it likely to furnish exhibition blooms? Yet, even thus, a stray bloom shows us occasionally the metal it is made of. Shaded and prevented bearing more than half a dozen blooms (and it has in bygone days to my knowledge contributed to catch the judge's eye and bring the stand into the premier rank), I believe it would do so again; but grown as it usually is, No. 59 may probably represent its fair position.

By mistake the heading of the lists last week was that the Roses are in "order of merit." This was not asked for this year, though some of them are approximate. Though numbered, this has rather been to insure the correctness of the number of Roses named than to express their relative merits.—JOSEPH HINTON, *Warminster*.

VOTES IN ELECTION.

In the following returns the Roses are placed as the first best twelve, second best twelve, and next best twenty-four exhibition varieties.

Mr. J. GRAVELY, *Cowfold, Sussex*.

- | | |
|-----------------------------|-------------------------------|
| 1. Maréchal Niel | 7. Baronne de Rothschild |
| 2. La France | 8. Marquise de Castellane |
| 3. Marie Baumann | 9. Louis Van Houtte |
| 4. Marie Rady | 10. Monsieur E. Y. Teas |
| 5. Alfred Colomb | 11. Madame Victor Verdier |
| 6. Charles Lefebvre | 12. Etienne Levet |
| 13. Baronne Haussmann | 19. Monsieur Noman |
| 14. Comtesse d'Oxford | 20. John Hopper |
| 15. Duchesse de Vallombrosa | 21. Pierre Notting |
| 16. Duc de Wellington | 22. Star of Waltham |
| 17. François Louvat | 23. Beauty of Waltham |
| 18. François Michelin | 24. Jean Liabaud |
| 25. Abel Grand | 37. Madame Thérèse Levet |
| 26. Annie Wood | 38. Mlle. Eugénie Verdier |
| 27. Antoine Ducher | 39. Marie Cointet |
| 28. Camille Bernardin | 40. Marguerite de St. Amand |
| 29. Capitaine Christy | 41. Madame Charles Wood |
| 30. Comtesse de Serenye | 42. Olivier Delhomme |
| 31. Duchesse de Caylus | 43. Royal Standard |
| 32. Duke of Edinburgh | 44. Sénateur Vaisse |
| 33. Edouard Morren | 45. Sultan of Zanzibar |
| 34. Exposition de Brie | 46. Catherine Mermet |
| 35. Duchesse de Morny | 47. Comte Alphonse de Serenye |
| 36. Le Havre | 48. Hippolyte Jamain |

Mr. R. W. BEACHEY, *Fluders, Kingskerswell, Torquay*.

- | | |
|---------------------------|--------------------------------|
| 1. Maréchal Niel | 7. Marguerite de St. Amand |
| 2. Marie Baumann | 8. Charles Lefebvre |
| 3. Alfred Colomb | 9. Comtesse de Serenye |
| 4. Marquise de Castellane | 10. Camille Bernardin |
| 5. François Michelin | 11. Louis Van Houtte |
| 6. Etienne Levet | 12. La France |
| 13. Monsieur E. Y. Teas | 19. Catherine Mermet |
| 14. Baronne de Rothschild | 20. Madame Victor Verdier |
| 15. Le Havre | 21. Marie Finger |
| 16. Duke of Edinburgh | 22. Princess Mary of Cambridge |
| 17. Dr. Andry | 23. Dupuy Jamain |
| 18. Devoniensis | 24. Xavier Olibo |
| 25. Souvenir d'Elise | 37. Victor Verdier |
| 26. Duc de Wellington | 38. Comtesse d'Oxford |
| 27. Fisher Holmes | 39. Cheshunt Hybrid |
| 28. Général Jacqueminot | 40. Prince Camille de Rohan |
| 29. Horace Vernet | 41. Lælia |
| 30. John Hopper | 42. Duchesse de Vallombrosa |
| 31. Madame C. Joigneaux | 43. Capitaine Christy |
| 32. Marie Van Houtte | 44. Baron de Bonstetten |
| 33. Marie Rady | 45. Antoine Ducher |
| 34. Miss Hassard | 46. Thomas Mills |
| 35. Reynolds Hole | 47. Pierre Notting |
| 36. Souvenir d'un Ami | 48. Gloire de Dijon |

Mr. JAMES BROWN, *Longfield, Heaton Mersey*.

- | | |
|-----------------------------|-----------------------------|
| 1. La France | 7. Alfred Colomb |
| 2. Marie Baumann | 8. François Michelin |
| 3. Baronne de Rothschild | 9. Charles Lefebvre |
| 4. Xavier Olibo | 10. Maréchal Niel |
| 5. Capitaine Christy | 11. Sénateur Vaisse |
| 6. Pierre Notting | 12. Louis Van Houtte |
| 13. Marquise de Castellane | 19. Dupuy Jamain |
| 14. Comtesse d'Oxford | 20. Etienne Levet |
| 15. Duke of Edinburgh | 21. Edouard Morren |
| 16. Mlle. Eugénie Verdier | 22. Madame C. Joigneaux |
| 17. Madame Lacharme | 23. Dr. Andry |
| 18. Fisher Holmes | 24. John Hopper |
| 25. Marguerite de St. Amand | 37. Duchesse de Vallombrosa |
| 26. Reynolds Hole | 38. Madame Thérèse Levet |
| 27. Madame Victor Verdier | 39. Lord Macaulay |
| 28. Ferdinand de Lesseps | 40. Général Jacqueminot |
| 29. Mlle. Marie Rady | 41. Abel Grand |
| 30. Emilie Hausburg | 42. Jules Margottin |
| 31. Horace Vernet | 43. Duc de Rohan |
| 32. Gloire de Dijon | 44. Victor Verdier |
| 33. Star of Waltham | 45. Annie Laxton |
| 34. Comte de Serenye | 46. Marie Van Houtte |
| 35. Monsieur E. Y. Teas | 47. Catherine Mermet |
| 36. La Rosière | 48. Niphotos |

Mr. T. LEWIN CURTIS, *Chatteris*.

- | | |
|-----------------------------|-----------------------------|
| 1. Marie Baumann | 7. Marguerite de St. Amand |
| 2. La France | 8. Maréchal Niel |
| 3. Alfred Colomb | 9. Horace Vernet |
| 4. Charles Lefebvre | 10. Mlle. Marie Rady |
| 5. Baronne de Rothschild | 11. Louis Van Houtte |
| 6. François Michelin | 12. Madame Victor Verdier |
| 13. Dr. Andry | 19. Mlle. Marie Finger |
| 14. Emilie Hausburg | 20. Reynolds Hole |
| 15. Comtesse d'Oxford | 21. Duc de Wellington |
| 16. Marquise de Castellane | 22. Capitaine Christy |
| 17. Devienne Lamy | 23. Xavier Olibo |
| 18. Mlle. Marie Cointet | 24. Etienne Levet |
| 25. Madame Hippolyte Jamain | 37. Star of Waltham |
| 26. Queen Victoria | 38. Victor Verdier |
| 27. Duchesse de Caylus | 39. Madame Nachury |
| 28. Lord Macaulay | 40. Clotilde Rolland |
| 29. Jean Liabaud | 41. Baron Gonella |
| 30. Sénateur Vaisse | 42. Marie Van Houtte |
| 31. Madame Thérèse Levet | 43. Catherine Mermet |
| 32. Duc de Rohan | 44. Souvenir de Paul Neyron |
| 33. Olivier Delhomme | 45. Monsieur E. Y. Teas |
| 34. Duchesse de Morny | 46. Madame Noman |
| 35. Jean Cherpin | 47. Jean Ducher |
| 36. Marguerite D'Ombraïn | 48. Madame Lacharme |

Mr. A. G. SOAMES, *Bourne, Lincolnshire*.

- | | |
|-----------------------------|-----------------------------|
| 1. La France | 7. Duchesse de Vallombrosa |
| 2. Maréchal Niel | 8. Marquise de Castellane |
| 3. Alfred Colomb | 9. Etienne Levet |
| 4. Marie Baumann | 10. Louis Van Houtte |
| 5. Baronne de Rothschild | 11. Comtesse d'Oxford |
| 6. Charles Lefebvre | 12. Mlle. Eugénie Verdier |
| 13. Dr. Andry | 19. Xavier Olibo |
| 14. Madame Victor Verdier | 20. François Michelin |
| 15. Emilie Hausburg | 21. Duke of Edinburgh |
| 16. Catherine Mermet | 22. Camille Bernardin |
| 17. Souvenir d'un Ami | 23. Marguerite de St. Amand |
| 18. Souvenir d'Elise | 24. Marguerite Brassac |
| 25. Horace Vernet | 37. Edouard Morren |
| 26. Dupuy Jamain | 38. Mlle. Marie Rady |
| 27. Reynolds Hole | 39. Duchesse de Morny |
| 28. Star of Waltham | 40. Marie Van Houtte |
| 29. Anna Olivier | 41. Devienne Lamy |
| 30. Rubens | 42. Victor Verdier |
| 31. Souvenir de Paul Neyron | 43. Prince Camille de Rohan |
| 32. Capitaine Christy | 44. Abel Carrière |
| 33. Monsieur Noman | 45. Fisher Holmes |
| 34. Exposition de Brie | 46. Souvenir de Spa |
| 35. Madame Hippolyte Jamain | 47. Comtesse de Nadailac |
| 36. Madame Thérèse Levet | 48. Jean Ducher |

Mr. G. BAKER, *Reigate*.

- | | |
|-----------------------------|-----------------------------|
| 1. Marie Baumann | 7. Marquise de Castellane |
| 2. Alfred Colomb | 8. Comtesse d'Oxford |
| 3. Capitaine Christy | 9. Duke of Edinburgh |
| 4. Reynolds Hole | 10. Baronne de Rothschild |
| 5. Dr. Andry | 11. Charles Lefebvre |
| 6. La France | 12. Etienne Levet |
| 13. Mlle. Marie Rady | 19. Pierre Notting |
| 14. Madame Victor Verdier | 20. Sultan of Zanzibar |
| 15. Duchesse de Vallombrosa | 21. Madame Hippolyte Jamain |
| 16. John Hopper | 22. Ferdinand de Lesseps |
| 17. Monsieur E. Y. Teas | 23. Louis Van Houtte |
| 18. Camille Bernardin | 24. Dupuy Jamain |
| 25. Annie Wood | 37. Abel Carrière |
| 26. Victor Verdier | 38. Horace Vernet |
| 27. Mlle. Prosper Langier | 39. Maréchal Niel |
| 28. Marguerite de St. Amand | 40. Cheshunt Hybrid |
| 29. Devienne Lamy | 41. Marguerite Brassac |
| 30. Sénateur Vaisse | 42. Emilie Hausburg |
| 31. Sir Garnet Wolseley | 43. Fisher Holmes |
| 32. François Michelin | 44. Edouard Morren |
| 33. Star of Waltham | 45. Hippolyte Jamain |
| 34. Comtesse de Serenye | 46. Gloire de Dijon |
| 35. Mlle. Eugénie Verdier | 47. Monsieur Noman |
| 36. Mrs. Baker | |

Mr. WILLIAM HAND, 10, Marsh Street, Newcastle, Staffordshire.

- | | |
|-----------------------------|-------------------------------|
| 1. Maréchal Niel | 7. François Michelin |
| 2. Charles Lefebvre | 8. Baronne de Rothschild |
| 3. Marie Baumann | 9. Etienne Levett |
| 4. Sénateur Vaisse | 10. Duc de Rohan |
| 5. Louis Van Houtte | 11. Mdlle. Eugénie Verdier |
| 6. La France | 12. Marquise de Castellane |
| 13. Madame Victor Verdier | 19. Reynolds Hole |
| 14. Comtesse de Serenye | 20. Villaret de Joyeuse |
| 15. Gloire de Dijon | 21. Antoine Ducher |
| 16. Prince Camille de Rohan | 22. La Rosière |
| 17. Madame Lacharme | 23. Edouard Morren |
| 18. Madame Hippolyte Jamain | 24. Marquise de Mortemart |
| 25. Duke of Edinburgh | 27. Duc de Wellington |
| 26. Lælia | 38. Duchesse de Vallombrosa |
| 27. Velours Pourpré | 39. Paul Neyron |
| 28. Prince of Wales | 40. Xavier Olibo |
| 29. Madame Thérèse Levett | 41. Madame Clémence Joigneaux |
| 30. Star of Waltham | 42. Hippolyte Jamain |
| 31. Fisher Holmes | 43. Dupuy Jamain |
| 32. Annie Laxton | 44. Cheshunt Hybrid |
| 33. Dr. Andry | 45. Capitaine Christy |
| 34. Abel Grand | 46. Comtesse d'Oxford |
| 35. Baron Hausmann | 47. Duchesse de Morny |
| 36. Felix Genero | 48. Centifolia Rosa |

Rev. J. B. M. CAMM, Monkton Wyld, Charmouth.

- | | |
|---------------------------|-----------------------------|
| 1. Alfred Colomb | 7. Marie Van Houtte |
| 2. Marie Baumann | 8. Catherine Mermet |
| 3. Baronne de Rothschild | 9. Dr. Andry |
| 4. Charles Lefebvre | 10. Souvenir d'un Ami |
| 5. Maréchal Niel | 11. Mdlle. Eugénie Verdier |
| 6. Souvenir d'Elise | 12. La France |
| 13. Beauty of Waltham | 19. Camille Bernardin |
| 14. Madame Victor Verdier | 20. Reynolds Hole |
| 15. Marie Rady | 21. Louis Van Houtte |
| 16. Comtesse d'Oxford | 22. Marguerite de St. Amand |
| 17. Marie Cointet | 23. Hippolyte Jamain |
| 18. Ferdinand de Lesseps | 24. Horace Vernet |
| 25. Abel Grand | 37. Lord Macaulay |
| 26. Abel Carrière | 38. Comte de Raimbaud |
| 27. Sultan of Zanzibar | 39. Pierre Notting |
| 28. Sénateur Vaisse | 40. Monsieur Noman |
| 29. Triomphe de Rennes | 41. Etienne Levett |
| 30. Jean Pernet | 42. Prince Arthur |
| 31. Julie Mansais | 43. Maréchal Vaillant |
| 32. Madame Bravy | 44. Duc de Rohan |
| 33. Devoniensis | 45. Emilie Hausburg |
| 34. Céline Forestier | 46. Prince Camille de Rohan |
| 35. Sir Garnet Wolseley | 47. Olivier Delhomme |
| 36. Jean Liabaud | 48. Xavier Olibo |

Mr. J. BROWN, Gardener to A. J. Waterlow, Esq., Great Doods, Reigate.

- | | |
|-----------------------------|-----------------------------|
| 1. Alfred Colomb | 7. Etienne Levett |
| 2. Baronne de Rothschild | 8. La France |
| 3. Charles Lefebvre | 9. Louis Van Houtte |
| 4. Dr. Andry | 10. Marie Baumann |
| 5. Dupuy Jamain | 11. Marquise de Castellane |
| 6. Duke of Edinburgh | 12. Maréchal Niel |
| 13. Comtesse d'Oxford | 19. Madame Victor Verdier |
| 14. Camille Bernardin | 20. François Michelin |
| 15. Capitaine Christy | 21. Victor Verdier |
| 16. Monsieur E. Y. Teas | 22. Catherine Mermet |
| 17. Marguerite de St. Amand | 23. Souvenir d'Elise Vardon |
| 18. Mdlle. Marie Rady | 24. Souvenir d'un Ami |
| 25. Annie Wood | 37. Maréchal Vaillant |
| 26. Beauty of Waltham | 38. Marie Cointet |
| 27. Cheshunt Hybrid | 39. Madame H. Jamain |
| 28. Emilie Hausburg | 40. Mdlle. Eugénie Verdier |
| 29. Edouard Morren | 41. Duc de Wellington |
| 30. Devienne Lamy | 42. Prince Camille de Rohan |
| 31. Duchesse de Vallombrosa | 43. Pierre Notting |
| 32. Ferdinand de Lesseps | 44. Sénateur Vaisse |
| 33. Henri Ledechaux | 45. Mdlle. Thérèse Levett |
| 34. Horace Vernet | 46. Reynolds Hole |
| 35. John Hopper | 47. Xavier Olibo |
| 36. Mrs. Baker | 48. Marguerite Brassac |

The above Reses are grown on very sandy soil.—J. B.

LARGE VERSUS SMALL BUNCHES OF GRAPES.

FROM the reports of the fruit shows this autumn it appears that "big" bunches of Grapes are decreasing. Neither at the Crystal Palace nor Edinburgh, two of the best fruit shows of the season where big bunches are encouraged, was there anything "sensational" exhibited; 16 lbs. being the heaviest at the Palace, and 8 lbs. 14 ozs. at Edinburgh. Certainly such bunches are out of the average production of Grapes, but we hardly recollect ever seeing these monster bunches well finished or in a condition that would win a prize for any other quality but size, and so far as table use goes such bunches are next to worthless. I would much prefer to see a perfectly finished and well-shaped Black Hamburg or Muscat of Alexandria bunch from 4 lbs. to 6 lbs. in weight, than a Syrian or other coarse sort weighing upwards of 20 lbs. Size of berry should

be of the first consideration. Fine, large, evenly-sized Hamburgs and Muscat berries always indicate high culture and merit, but a large bunch of a rough kind badly finished does not.

But while I am no advocate for large unserviceable bunches of Grapes, at the same time I think the other extreme should be guarded against. In the excellent report of the Show at the Crystal Palace which appeared in the Journal Sept. 26th, it is stated that the first prize (three bunches of Black Hamburgs) did not exceed "three-quarters of a pound each in weight." I am sure most gardeners will agree with me in thinking that this is going under the mark, and no matter how fine the few berries forming these bunches may have been, they were not examples to hold up for imitation in Grape culture. Anyone desiring to grow Grapes creditably should study to secure the finest Grapes with bunches averaging 3 lbs. A general crop of this kind well finished will be found far more useful than a few 16-lbs. bunches, and it is just to these medium well-finished bunches we would award prizes, but never to bunches under 1 lb. in weight.—A KITCHEN GARDENER.

THE WOOLHOPE CLUB.

THE annual Fungus foray of the Woolhope Club took place during the first week in October. It was attended by most of the leading mycologists—Messrs. Cooke, Smith, Renny, Phillips, Plowwright, Broome, Spencer Perceval, Lees, Vize, Howse, Bicknell, and others. The weather was remarkably fine, and with the exception of the afternoon of Friday no rain fell during the whole time. Although many of the common Agarics were absent, owing probably to the exceptionally early season, a larger number than usual of novelties were discovered, many of which have still to be studied and named.

The first excursion on Tuesday, October 1st, was arranged for the woods on the banks of the Wye below Symonds Yat station on the Monmouth line. Few Fungi were found; the mycologists were, however, much interested in the caves on the right bank of the Wye, in which bones of bear, hyæna, &c., have been discovered. Among the Fungi found may be mentioned *Tricholoma acerbus*, *Tricholoma ustalis*, *Pluteus chrysophæus*, *Flammula carbonaria*, *Leptonia incanus*, *Cortinarius anomalus*, *Lactarius uvidus* and *fuligineus*, *Marasmius erythropus*, and a *Clavaria*, which gave rise to an animated discussion between Messrs. Cooke and Plowwright, and was supposed by the latter to be *argillacea*.

The next day (Wednesday) was devoted to the classical ground of Dinmore. The time was short and the portion examined smaller than usual, but it yielded an unusual number of interesting species. Mr. Spencer Perceval found *Peziza saniosa*, a species with a violet juice, which has only been found once or twice before in this country, also *Strobilomyces strobilaceus*. In addition to this may be recorded *Hebeloma obscurus*, *Pholiota unicolor*, *Ecclia atropunctata*, *Mycena rosellus*, *Cortinarius callichrus*, *tabularis*, *afexipes*, and *sublanatus*; *Lactarius plumbens* and *pubescens*, *Panus torulosus*, *Thelephora Sowerbii*, and *Hypomyces rosellus*. In the evening a telegram was received from three Parisian friends—Messrs. Cornu, Roze, and Cintract, wishing success to the Woolhope meeting.

On Thursday, Sufton Court, the residence of Richard Hereford, Esq., was visited. This, like Dinmore, yielded many interesting species, among which may be mentioned *Mycena pellanthinus*, *Pholiota erebius* (Leveillanus), *Pluteus phlebophorus*, *Entoloma sinuatus* and *rhodopolis*, *Russula lepidia*, *Hygrophorus puniceus* and *pratensis*, *Polypones intybaceus*, *Clavaria pistillaris*, *Peziza leporina*, *succosa hemispherica*, and *Cortinarius armeniacus*. Mr. Plowwright dug up a rare tuber, a species of *Balsamia*.

In the evening the usual annual dinner took place, and afterwards Mr. Augustine Ley read an interesting paper on the Mosses of Herefordshire. Dr. Bull made an amusing speech, alluding to the various accounts of poisoning by Fungi. He read an extract from a paper describing how a man had been taken seriously ill after partaking of bread pudding, and thought if such a case had occurred it was not surprising that persons should be ill after eating improperly cooked and carelessly selected Fungi. He announced that Mr. Spencer Perceval and Mr. Howse had been elected honorary members of the Woolhope Club. Mr. Plowwright also alluded to the recent case of poisoning by Fungi in Norfolk, and stated that the species eaten had been selected in the dark and so covered up with pepper that their taste could not be recognised. *Hygrophorus pratensis* and *Clitocybe nebularis* were served at the dinner of the Club and both highly approved of, especially *C. nebularis*, which has the flavour of ketchup.

At the Fungus Exhibition in the large room of the Museum a considerable number of species were represented. The most remarkable were *Tricholoma frumentaceus*, brought by Mr. Renny, and a curious *Hypoholoma* with a connate stem, differing from *lachrymabundus* by its caespitose habit and dry gills. The Rev. M. J. Berkeley sent *Hygrophorus lacmus*, *Hygrophorus turundus*, and *Hygrophorus Wynnei*, the last a new species. After the dinner

a soirée was held in the house of Mr. Cam. Dr. Cooke read a paper on *Corticium*, a marvel of patient research in that difficult genus.

"In tenui labor, sed tenuis non gloria."

After this there was an interesting controversy between Dr. Cooke and Mr. Phillips on *Peziza crucifera*, established as a new species by the latter. This *Peziza* is very near to if not identical with *P. virginea*, but has cruciform crystals of oxalic acid on the surface of the hymenium. Dr. Cooke thought that the presence of an inorganic body in a plant, unless it served some special purpose, was not a sufficient reason to establish that plant as a new species. Sun and rain would soon destroy these crystals and

reduce the *Peziza* to the ordinary state of *P. virginea*. Mr. Plowright supported the views of Mr. Phillips.

Mr. Vize exhibited *Aecidium ornamentale*, a fine exotic species many times larger than any we are acquainted with in this country.

On Friday the usual excursion was made to the charming Downton Woods, near Ludlow, always prolific in rare Agarics, and rendered doubly (someone said fortyfold) agreeable by the hospitality of the Messrs. Fortey. A large number of interesting Fungi were gathered, and some were new species yet to be identified. The great feature of the day was the presence of an unusual number of *Strobilomyces strobilaceus*. It usually occurs, if found

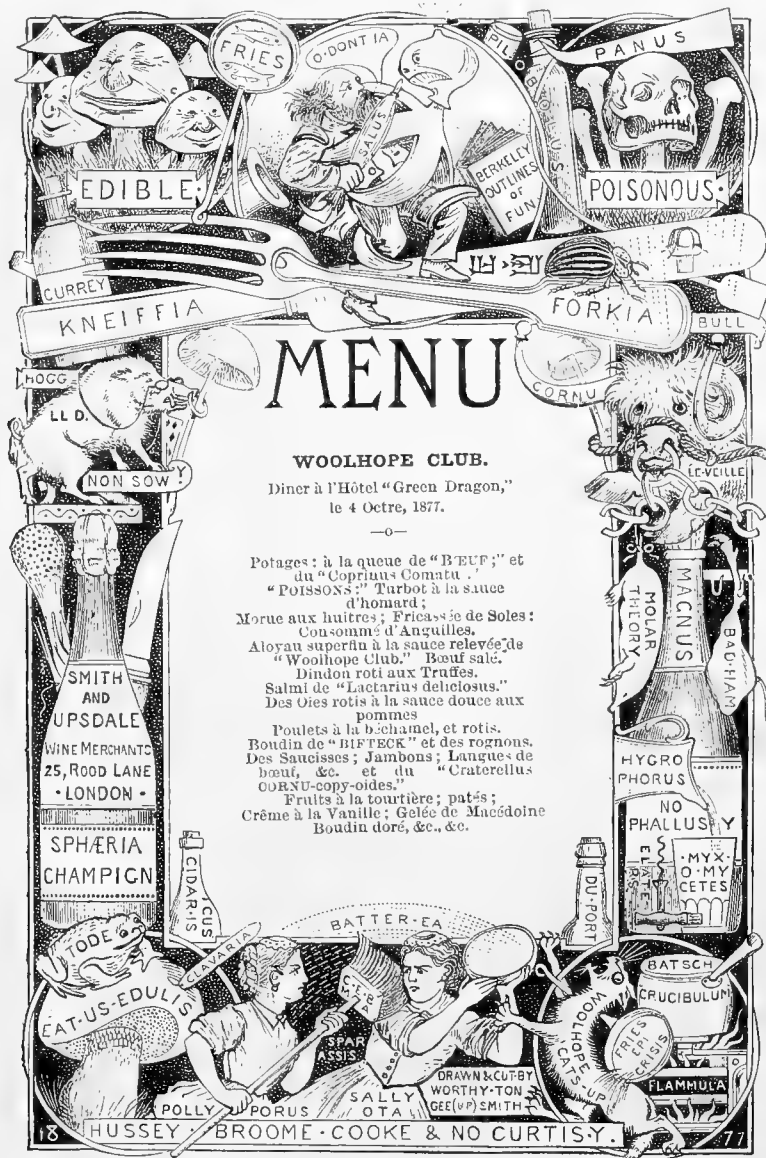


Fig. 42.—WOOLHOPE MENU.

at all, very sparingly; but on this occasion Mr. A. S. Bicknell discovered nearly fifty individuals growing together, but he prudently did not make known the locality to the rest of the party. Besides this may be mentioned *Tricholoma inamœnum* and *cuneifolius*, *Clitocybe odoratus*, *Entoloma clypeatus*, *Pholiota heteroclita*, *Leptoma chalybeus*, *Cortinarius torvus*, *elatior*, *cinnabarinus*, and *bolaris*, *Hygrophorus lacmus* and *erubescens*, *Clavaria botrytis* and *amethystina*, *Russula lepida*, *lutea*, and *cyanoxantha*, *Peziza onotica*, and *Hypomyces rosellus*. Mr. Fortey found the very rare *Sphaeria Albertini*. In the afternoon the party returned through Oakley Park, the seat of the Clive family, now represented by Lord Windsor. The old Oaks were much admired. They are supposed to be over two thousand years old, as they are mentioned as old trees in Domesday Book.

Pholiota terrigenus was found in the grounds, and fine specimens of *Fistulina hepatica* on the Oaks. The party then returned to Hereford, much pleased with the result of their labours. Several of the party proposed attending the Edinburgh meeting in the following week.

"O dulces comitum valete cœtus!
Longe quos simul a domo profectos,
Diversos variæ viæ reportant."

—T. HOWSE, F.L.S.

WOOLHOPE MENU.

THROUGH the kindness of Mr. W. G. Smith, the talented botanical artist and fungologist, we are enabled to present our readers with a copy of the menu which that gentleman designed

for the dinners of the Woolhope Naturalists' Field Club. It is not easy to decide whether to admire it more for the artistic talent displayed in the design or for the perfect wit and humour which the design illustrates. The menu first appeared in the pages of a contemporary with the accompanying description—"Beginning at the top, the pleasant faces seen in the 'edible' Fungi, and the dolorous mementos manifest in the 'poisonous' ones, explain themselves. The former are suitable for frying, and Fries is the greatest living authority on Fungi; the latter cause unpleasant symptoms and pain us—"Panus" is a genus of Fungi; the pill box, pill and medicine bottle, are represented by the genus of Fungi named 'Pilobolus.' Mr. Berkeley in the top centre is being attacked by a starry Puff-ball (a species of vegetable octopus), and his exclamation of affright naturally takes the form of another genus of Fungi named 'Odontia.' It will be observed that Mr. Berkeley, who is applying 'salus' to the nose of the monster (a material 'no Fungus can withstand') has let fall his 'Outlines of Fun-gology.' The bottle of 'Currey' on the left immortalises Mr. Fredk. Currey, the famous fungologist. 'Kneiffia' underneath is a genus of Fungi, and 'Forkia' is a genus shortly to be established. The cuneiform inscription indicates the character of the fungoid octopus and the Colorado beetle at Hereford. The porcine quadruped on the left points to Dr. Robert Hogg, who has published a book on Fungi, and the inscription 'Non Sow.' indicates that he is not to be confounded with Sowerby. The umbrella handle and great knife on the left always appear at the Hereford meetings: they belong to Mr. Plowwright, the famous surgeon and fungologist of King's Lynn. The wine bottle bears the name of the renowned wine merchants of Rood Lane, who supply so many Fungus eaters with their (as pronounced after dinner) 'Sphæria champign.' Sphæria is an immense genus of Fungi, and 'champign' is Champignon with its tail off. On the right we have Dr. Bull, the physician of Hereford, supporting 'Cornu' (Latin for Dr. Bull's Horn of Plenty). M. Max Cornu of Paris is one of the highest living authorities on Fungi, and was a guest at Hereford. The chains and ropes ornamenting the bovine nose indicate the power and irrepressible energy of Dr. Bull. Leveille is the name of a great Fungus author, and refers at the same time to the 'veal' which at an early period clothes the bones of all oxen. 'Magnus' refers to Dr. Magnus of Berlin, the fungologist. The greatness of this author's name has expelled the cork from the bottle. 'Bad-ham' on the dried pig's leg refers to Dr. Badham, who wrote the 'Esculent Funguses of England'; whilst the mole hanging head downwards indicates the miserable condition of Mr. Lee's 'molar theory,' which referred the formation of fairy rings to the underground gyrations of the mole. 'Hygrophorus' (the Water Bearer) is the name of a large genus of watery Fungi; and the 'Myxomycetes' are a large group of Fungi now attracting peculiar attention. Phallus is a genus of Fungi, which does service here in indicating that there is 'no fallacy' as to the quality of the wine consumed. Some Fungi bear spiral corkscrew-like springs for use in dispersing the spores; the springs are named 'elaters,' therefore the corkscrew figured is in more senses than one an 'elator.' The bottle of cider on the left and Agaricus cidaris are synonymous, and 'Du-Port' on the right is the name of an excellent fungoid clergyman from Norfolk who attended the Hereford meeting. Arriving now at the bottom we have Tode, a writer on Mushrooms, together with a figure of Boletus edulis beheaded. Hussey, Broome, Cooke, and Curtis are all renowned fungologists. Hussey and Cooke are in conflict: the latter has just thrown a rolling-pin (Clavaria—a genus of Fungi) at the latter, and is now in the act of discharging a basin of batter (Batarrea, another genus of Fungi) at her opponent. The cook's name is Psalliota, a sub-genus of Fungi; the hussy's name Polyporus, a large genus of the same class of plants. 'C. E. B., M.A.,' on the hussy's weapon, point to the name and degree of Mr. Broome the fungologist. 'Sparassis' is an important genus of Fungi, which is here giving a hint to the combatants as to how to proceed when their artificial weapons are no longer available. 'Crucibulum' is the name of a large genus of Fungi, and means a saucepan: the 'Batch' inside is the name of a great Fungus author. 'Flammula,' a little flame, is a sub-genus of Fungi; and 'Fries Epi-crisis' (the fat-in-the-fire) is the name of the best text-book of Fungi in existence."

year bloomed at Sudbourne Hall, Wickham Market, Suffolk, the seat of Sir Richard Wallace. The stems are about 24 feet high, with branches very short and thickly set together at the top of the stem, farther apart lower down, and not opposite one another; the flower branches do not grow near the leaves, but are quite 3 feet above them. There were thirty-two branches, and taking each truss to average eighty blossoms, there were about 2700 flowers on one plant. The flower buds look a pale greenish white tipped with bright yellow. The flower lasts from three to four days; the scent is most disagreeable. An immense quantity of honey drops from the flower. The thickness of each leaf next the stem is from 6 to 8 inches; the width of leaf at the base is over a foot; length about 6 feet. The leaves are dark green, with stripes of yellow round the edge. These plants are said to have been in the conservatory nearly eighty years. As soon as the flowers expand the leaves begin to droop, and the plants gradually die away. The dry stem of a plant that flowered about eight years since is preserved in two pieces in the conservatory; and although nearly 27 feet long, can be easily carried about by a lady or child, being as light as a piece of cork. A fine plant of this Aloe is now flowering on the terrace at Hampton Court, from which hundreds of bees are constantly gathering honey during fine days.

FORTY GOOD ROSES, NOT FORTY THIEVES.

THERE are some Roses which I will not name that are appreciated by exhibitors that would ruin persons not versed in Rose-growing, and no doubt exhibitors find it difficult to keep them going. I propose to give a list of forty Roses which are good for the public—the careless public. If they cannot get on with those I name the sooner they take to cultivating Ragged Jack the better.

Hybrid Perpetuals.—Abel Grand, Anna Alexieff, Baron Adolphe de Rothschild, Baronne Prevost, Caroline de Sansal, Charles Lefebvre, Maréchal Vaillant, Edouard Morren, Duchesse de Caylus, Glory of Waltham, Gloire de Vitry, John Hopper, La Ville de St. Denis, Lord Clyde, Madame C. Crapelet, Madame de Cambacères, Madame Charles Wood, Madame C. Joigneaux, Baronne de Rothschild, Madame Victor Verdier, Mlle. Marie Rady, Marguerite de St. Amand, Marquise de Castellane, Maxime de la Rocheterie, Maurice Bernardin, Paul Neyron, Pierre Notting, Pierre Seletzky, Princess Mary of Cambridge, Queen of Waltham, Star of Waltham, Souvenir de Dr. Jamin, Vicomtesse de Vezin, William Griffiths, and Souvenir de la Reine d'Angleterre. The above are Hybrid Perpetuals.

Bourbons.—Baronne de Maynard and Souvenir de la Malmaison.

Yellow Roses.—Three of the best and most continuous bloomers in the Rose kingdom are Triomphe de Rennes, Céline Forestier, and Gloire de Dijon.

All of the above Roses have done well with me this season, besides some others.

I hope such beautiful Roses as Dr. Jamin, Baron Chaurand, Empereur de Maroc, Baronne de Maynard, Louis Van Houtte, and Louis XIV. will not be given up because they are small. The two first and two last are the most beautiful of the high-coloured Roses, whilst Pierre Notting is the more desirable. Maxime de la Rocheterie is a fine, full, bomb-shaped, dark Rose and a good grower. The high-coloured Roses as a class are not good growers. Pierre Notting, Maxime de la Rocheterie, Dr. Jamin, and Empereur de Maroc are the best growers here in the dark line and they live on. To some of the Roses named in Mr. Hinton's schedule I may address the well-known words, "Are, César! Morituri te salutant."

The Roses here are blooming respectably now, and I may say that for twenty-seven years I have not seen the Roses so fine. I dress them in the winter with liquid manure from a twenty-six cow dairy and fattening pigs.

The two finest corymb Roses are Triomphe de Rennes and Baronne de Maynard. Sir J. Paxton is also a splendid corymb Rose. They bloom continuously from the beginning to the end of the season.—W. F. RADCLIFFE.

FORCING TULIPS.

As the time is at hand when bulbs are procured for the ensuing season I think a few remarks on forced Tulips will not be inopportune. Duc Van Thol with its various colours is the best kind for forcing. It is supposed by many that the

AGAVE AMERICANA (The American Aloe).—Two of these plants, says "R. M. S." in "Midland Naturalist" have this

Tulips which are seen in Covent Garden during the dullest months of the year are grown in the pots they are exhibited for sale in; but this is not so. They are managed thus: The bulbs are placed thickly together in pans or boxes, and placed under cocoa-nut fibre until they are well rooted, when they are placed in heat and close to the glass. A temperature of about 55° to 60° is quite hot enough; if higher they become drawn. After the flowers have well shown their colours the plants are potted into 48-size pots. Three reds and two whites are generally how they are placed, or the plants can be introduced after removal into baskets or vases. Keep them close for a day or so and inure them to a cooler atmosphere, when they will be fit for use either for the conservatory or dinner-table decoration.—A SOUTHERN GROWER.

DUPLICATE ROSES.

ABOUT election time last year a discussion was originated by "WYLD SAVAGE" and Mr. Hinton, and taken part in by many, upon the similarity existing between the following "sets" of Roses:—Mons. Boncenne and Baron de Bonstetten, Eugénie Verdier and Marie Finger, Ferdinand de Lesseps, Maurice Bernardin and Exposition de Brie, Louis Peyronny and Lælia, and others. Much was said about the needlessness of having more than one of each "set" in a small collection, but I do not think anyone said which was the best one of the "set" to have. One gentleman said which was the brightest and which the darkest, another spoke of the difference in the wood, and a third referred to the shape.

With the exception of a small Briar plant of Baron de Bonstetten, which has never bloomed, I do not possess either at present, and in common with many other small growers I can neither spare the money to buy nor the room to grow a lot of all these sorts; but I want to know which is the best "all-rounder," combining hardihood, freedom of bloom, and shape of each family. So if some of the knowing ones will tell us we shall be greatly obliged. It seems to me that La France and Capitaine Christy come under the category of those Roses that small growers need not have both of, for if we except a slight difference in shape they are very much alike. Ferdinand de Lesseps as exhibited at the Alexandra and Crystal Palaces this year appears to be rather a ragged, loose character. Is it so? It is quite possible that I am wrong on both these points. If so, I hope someone will tell me so, as I am not a "Hercules" or a "Savage" but only—A LOVER OF ROSE SHOWS.

NOTES AND GLEANINGS.

THE WEATHER in the south has during the first week in October been of the most brilliant character—quite, as many have remarked, a second summer. The sunny days have been specially acceptable to gardeners who have had to wage for many weeks an incessant war against weeds, and even then the weeds too often conquered. Gardens, which it has been almost impossible to keep clean during the summer, are now assuming a neat appearance, so far at least as falling leaves permit, and are yet bright with autumn flowers, frosts as yet having done little or no damage to tender plants. The dry sunny period is also very opportune in ripening the wood of fruit trees, which, owing to the absence of fruit and prevalence of wet, have generally made exuberant growth this year.

—WE remind our readers that at the meeting of the Fruit Committee of the Royal Horticultural Society on Tuesday next, the competition for the prizes offered by the Messrs. Pearson for their NEW GRAPES, Mrs. Pearson and Golden Queen, will take place. The latter Grape we have seen very fine in certain places this season. We are also informed that many of the growers have signified their intention of exhibiting collections of fruit and also Potatoes, so that a very interesting meeting may be anticipated.

—IT is very seldom, writes "A SOUTHERN GROWER," that well-grown PELARGONIUMS are seen, especially in small pots, and the reason is generally that the plants are kept too close and moist at the roots during the winter. If growth is encouraged during the dull short days the plants are sure to be drawn, the wood does not ripen, and the result is very little bloom. Abundance of air and light, and only enough water to keep the plants from suffering, is the plan to adopt until February. At that time they must be well watered and never afterwards be allowed to become dry, or they will lose a great

part of their foliage. Another mistake is to give liquid manure before the plants show buds, which causes them to make rank growth, which cannot thoroughly ripen. If they are treated as above directed the wood that is made in winter will be stout and short-jointed, and the plants will flower profusely.

—ACCORDING to custom, notifications are issued that the SURPLUS BEDDING PLANTS in the London parks, Kew Gardens, and Hampton Court will shortly be distributed to the industrial classes who apply for them through the clergy, school managers, and other representative bodies, who can obtain information as to the time of distribution by applying to the Superintendents of the parks. Some of the applications for plants we are informed are very amusing, amounting to large orders of Roses, shrubs, &c., the applicants appearing to be ignorant that only such bedding plants as Geraniums are distributed.

—THE monthly meeting of the SCOTTISH HORTICULTURAL ASSOCIATION was held on the 1st inst. at 5, St. Andrew's Square, Edinburgh. The Vice-President, Mr. Hugh Fraser, occupied the chair. Mr. Charles Taylor read a paper on the Theory of Fern Spores, illustrating his remarks by diagrams. He described the views generally held on this subject, and, after tracing the development of spores, concluded by urging the members to give more attention to this question than they had hitherto done, as it opened up a wide field for fresh and important inquiry. Mr. Andrew Kerr continued the subject by another paper, in which he gave his experience in the treatment and culture of Ferns in a very elaborate manner. In the discussion which followed it was stated that *Adiantum gracilimum* was a sport from *Adiantum cuneatum*. This was borne out by the personal observation of several of the members present. The following plants and flowers were exhibited by Mr. L. Dow:—*Aralia spinosa*, two varieties of *Hibiscus*, *Spiræa Foxei*, and *Myrtus communis*, all in a profusion of flower growing out of doors; by Messrs. Dickson & Co. a stand of *Violas* and *Cyclamen europæum album*; by Mr. A. McKinnon four varieties of the autumn *Crocus*; by Messrs. Downie and Laird a splendid stand of seedling *Phloxes* of their own raising, and *Rhododendrons* Duchess of Edinburgh and Princess Royal; by Mr. R. Morrison a Fern case admirably adapted for raising Ferns from spores.

—THE business of the old-established house of Fergus Farrell & Sons, seedsmen, Dublin, has been purchased by Messrs. WALTER TAIT & Co. of that city, who will carry it on in conjunction with their own establishment.

—MR. HARDING informs us that he has lately seen not far from Peterborough a plant of *FUCHSIA RICCARTONI* trained against a stone wall facing the north-east. The plant is 10 feet in height, and from its appearance it looked as if it had been there during many years. It appeared to have had a tying-in or nailing once a year and the summer growths left to grow out from the wall, and the sprays of flowers were very beautiful. With its free-branching habit and profusion of flowers it is very useful when cut flowers are wanted in quantity, and it is in full bloom from July to November. Plenty of rain seems to benefit this plant.

—A NOTICEABLE and attractive feature in the Fulham Nurseries just now is a batch of *SKIMMIA JAPONICA*. The plants range from 1 to 2 feet in height, and amongst them may be found pyramids 2 feet in diameter at the base: yet the plants vary in shape, some of the tallest have a flat face to them, others of the dwarfest type are flat. The whole of the plants are densely covered with scarlet berries brighter than they are often seen. These plants were lifted from the open ground last season, placed in a pit until after the flowering season, when they were again placed outside: hence the result, which is highly creditable to Mr. Fancourt, the manager.

—SOME of the late kinds of POTATOES taken up in September in the neighbourhood of Peterborough have turned out very much diseased; Scotch Regents, Hundredfold Flukes, King of Potatoes, Paterson's Victoria, nearly one-half; while of Red-skin Flourball and Red Regent not 2 per cent. were diseased. Myatt's Prolific, Ashtop Kidney, and American Early Rose amongst early kinds turned out very prolific; the former two kinds being quite free from the murrain, and the latter kind about one bushel out of sixty at digging time (first week in August) were found bad, but in sorting over a fortnight later about 10 per cent. were taken away diseased.

—WE have pleasure in confirming the announcement

made in the *Standard* of October 1st, that a gold and also a silver medal have been awarded to MESSRS. SUTTON & SONS, the Queen's seedsmen, Reading, for their extensive museum of seeds, Grasses, models, &c., at the Paris International Exhibition. Visitors will doubtless remember this fine display of horticultural and agricultural produce in the gallery of the English agricultural annexe, and it is very gratifying to find that in this department the great firm sustained their world-wide reputation.

RABY CASTLE.—No. 1.

RABY CASTLE, the seat of the Duke of Cleveland, is situated in the southern division of the county of Durham—a county rich in coal, and rich also in historic associations. There is, perhaps, no place more replete with all that is interesting to the visitor than the proud baronial residence of Raby. Whether the visitor be a poet, novelist, or artist, and imbued with

the spirit of study, he will find much to awaken his interest there.

Raby Castle stands near the ancient village of Staindrop, and Barnard Castle is also adjacent. Staindrop was a village of great repute in the time of Canute, whilst a college was erected there in 1378 by a licence granted by Bishop Hatfield to Ralph Neville, Earl of Westmoreland. Here in the church are buried many members of this ancient family. Staindrop is only one mile from Raby,

"Staindrop, who from her sylvan bowers
Salutes proud Raby's battled towers."

On approaching from Staindrop the scenery is very fine. There are four approaches to the Castle through the park, in which is some magnificent timber.

The Castle itself is a pile of stately towers, and conveys to the visitor a most impressive idea of a great baronial palace in the feudal ages. It is surrounded with a parapet and embasured wall, together with a deep fosse, in which there used to

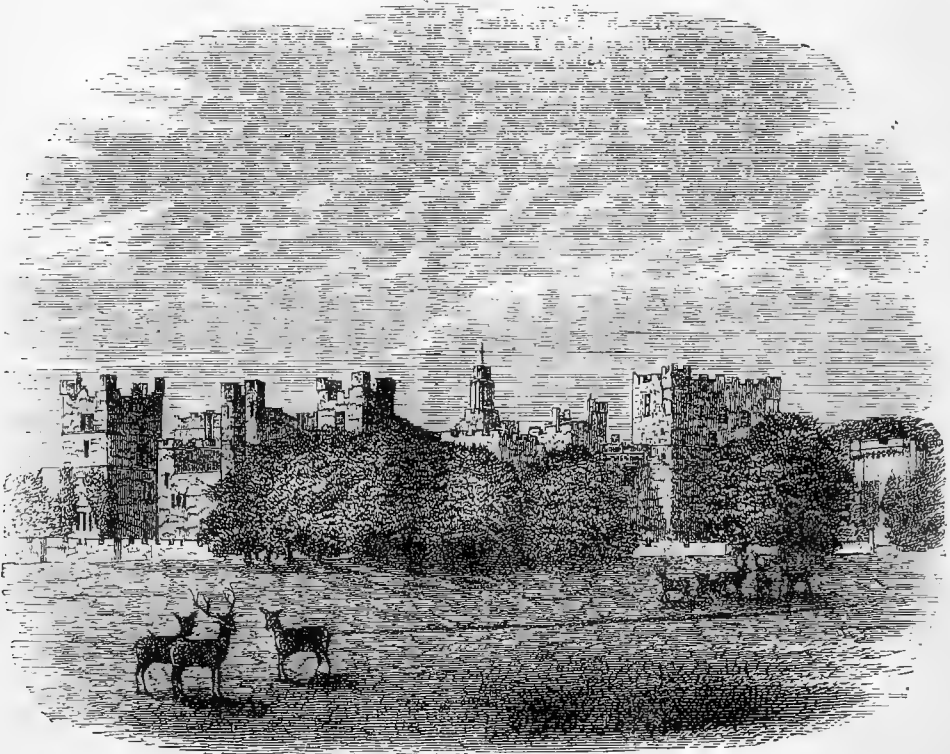


Fig. 43.—RABY CASTLE—NORTH-EAST SIDE.

be a drawbridge to the then only entrance to the Castle. Here, some historians state, stood Canute's mansion, which he yielded to the church of Durham. The beauty of the present building is due to John de Neville, who in 1379 obtained a licence to "make a castle of his manor of Raby, and to embattle and crenulate its towers." Into the inner area of the Castle there are two entrances, the most ancient one being from the west, which consists of a double way, square towers, and a portcullis let down before each gate in time of danger. The style of architecture is pure Gothic, which is still retained in all its pristine character. All repairs that are executed are done in unison with that style. Mr. Grosse says this Castle, "with its nearly circular terraces enclosed within a military wall, measures nearly two acres, and the immense demesne to exceed thirty miles in length." The south front is very beautiful, but the east front, with its lofty and embattled towers, presents a most imposing appearance.

The interior of the Castle is equally imposing. The entrance hall is very large, and is constructed so that carriages can drive in—we believe the only castle in England that contains such an arrangement. A flight of steps from the hall conducts to the presence chamber. The great baronial hall is very antique and of great extent, being 120 feet long by 36 broad. "Here

assembled in the time of the Nevilles seven hundred knights who held of that family." Many of the rooms present modern improvement, due regard having been paid to sanitary and acoustic properties. The Castle abounds in pictures—paintings by most renowned ancient and modern masters. Many of them are portraits, representing personages of this ancient family. Statuary, articles of vertu, old china, &c., also abound there. The ancient writer Leland in speaking of this Castle says, "Raby is the largest castel of loggicers in all the north country; ther belong three parkes to Raby, whereof two be plenished with dere."

The origin of the owners of Raby is of great antiquity, and many of the members of the family have attained historic celebrity, some of them having been famous as warriors, whilst others have ranked high as eminent politicians. Ralph Neville, born at Raby, was Lord Chancellor to King Richard III. This family assumed the name of Neville through marriage with the Nevilles of Brancepeth, whose large estates they obtained, the head of the family being raised to the Earl of Westmoreland. The title, according to Dugdale, became extinct with the sixth earl, who died in exile. The estates became confiscated, and were placed in the hands of some citizens of London in trust to be sold, and were pur-

chased by Sir Henry Vane, who was an ambassador to several foreign states, and who entertained King Charles I. twice at Raby, in 1633 and 1639. Raby was also besieged during 1645 and again in 1648, and strange to say the only account of this latter event is in the parish register at Staindrop church. In 1699 this family received the title of Baron Barnard, another member received the title of Earl of Darlington in 1754, whilst in the same century the family were raised to the dukedom, and the present distinguished nobleman is the fifth who has shared the title.

There was at one time a village called Raby, but this was removed to make improvements around the Castle. The situation of the Castle is very lovely; situated on rising ground it commands a rich view, on the east and west bounded by distant hills, and on the south is a plain, whilst nearer the horizon are beautiful plantations raised by the late Lord Darlington. Of the four approaches to the Castle one is for domestics, another leading to the Darlington road, a

third from Staindrop bridge, and a fourth from Durham. The ornamental grounds about the Castle are disposed with great taste, the lawns and water scenes being specially fine. This park also contains an extensive collection of red and fallow deer, which lend an additional charm to the entire surroundings.

We have lingered awhile on the historical connections of Raby. We will now commence to describe the gardens, which are placed under the care of the indefatigable superintendent Mr. Westcott. There are few gardeners who have not heard of these gardens. About half a century ago many pages were written on the Raby Vines which were grown in carrion borders, the entire failure of this system being now thoroughly understood. The glass is of great extent, every department is carried on effectively and on the most approved principles. On entering the conservatory, which is a large structure, 81 by 24 feet, we found the walls very finely covered with climbers, conspicuous amongst which were *Fuchsia Dominiana* and



Fig. 44.—RABY CASTLE—EAST FRONT.

Plumbago capensis with its charming lavender-coloured flowers. There were also the usual concomitant of plants required for floral decoration, and remarkably fine Ferns. We must not omit to mention the magnificent Cockscombs which had received the first prize at Bishop Auckland. They were of a rich crimson colour, and measured 21 inches over and 11 across. This is a strain of Mr. Westcott's own. Near the conservatory was a very good example of subtropical bedding, including Cannas, Wigandias, Castor-Oil Plants, and Zeas, all of which were very good. Passing on we come to a space of ground which is enclosed by a magnificent Yew hedge, planted at least a century ago, and is about 12 feet broad at the base. Here are two magnificent Walnut trees and a fine example of bedding-out, the rich dark shade of the Yew showing to advantage the gay colours of the flowers. The most fastidious could not but find much here to admire in the happy arrangement of the colours in this enclosure. Clematis Jackmani is used with a happy effect. Carpet bedding is also done, in which *Alternantheras* were beautifully coloured, and for the north were quite surprising to us. Mr. Westcott uses for carpeting a variety of *Gnaphalium tomentosum*, which is a fine, feathery, silvery-leaved plant worthy of extensive culture for such work. It is not easily propagated in the autumn, the best method is to take up old plants. Adjoining here is the Rose garden, in which dwarf Roses were pegged down with standards above

them. A fine rose Carnation in beds named the Raby Carnation was very effective. The glass structures and kitchen gardens will be noticed in a future issue.—B. COWAN, *Acnell Park*.

THE ROSE ELECTION.

I WOULD most heartily second the vote of thanks which our good friend "WYLD SAVAGE" offers to Mr. Hinton for the trouble that he has taken in producing so valuable a guide to Rose-growers as the list of the seventy-two best Roses given in the Journal for September 26th. These thanks are all the more due that this trouble has been taken in the midst of what I ever consider the most laborious and trying of all lives, the practice of a doctor in a country town; trouble, too, which involves, not the going through one's own garden quietly smoking the pipe of contentment, but the consumption of the midnight oil after, it may be, a hard day's work, the tabulating of a number of returns, the deciphering of bad writing, and the unravelling of many a yarn. "Mr. Hinton has deserved well of the republic" of Rose-growers.

He hardly asked me to give a return; but as I do not aspire to the honour of being an exhibitor, to which class I understood from him it was to be confined, I asked to be excused, and so my thanks are all the more due to him. "WYLD SAVAGE" has pathetically lamented the position which he occupies as

No. 71, but it is to me not a little remarkable that English-raised Roses make so poor a figure in the list. The last few years have seen a considerable number of these sent out by Messrs. Paul & Son, Turner, Wm. Paul & Son, Cranston, and others, yet of those sent out in the last ten years not one occupies a position in the first twelve. In the first twenty-four only one (Reynolds Hole), for Duke of Edinburgh came out in 1868. As far down as 48 there are only four—the two named, Star of Waltham, and Sir G. Wolseley; and in the whole seventy-two only nine, adding to those named Annie Laxton, Royal Standard, Miss Hassard, Duke of Connaught, and Rev. J. B. M. Camm, and these last having only nine, eight, and seven votes out of forty-one voters. Surely the judgment of Floral Committees and of the great Rose shows cannot be so defective. It is one of those things “no fellow can understand.”

On what ground does Mr. Hinton ascribe the honour of raising Lord Macaulay to Mr. Ward? I think there is an error here. Is he right, too, in saying that poor Mareast was the raiser of Souvenir d'Elise? I always thought he only raised one Rose, which I grieve to see nowhere in the list—dear wee Comtesse de Chabrillant. Times are altered since wee women were considered as the Venus de Medici, the type of feminine grace. We must now have Comtesses and Made-moiselles with the size of portly matrons of the aldermanic type fed on turtle and venison. “Times alter, &c.,” but at any rate love for the Rose seems undying, and may the Rose election be helpful to many of the real lovers of the flower.—D., Deal.

In comparing this year's election with last I note that many Roses have considerably changed their position for better or for worse. The following are increasing in favour:—Duchesse de Vallombrosa has advanced the astonishing number of 36 places; Star of Waltham, 17; Capitaine Christy, 12; Comtesse de Serenye, E. Y. Teas, and Pierre Notting each 11; Beauty of Waltham, 10; Duc de Rohan, 9; Duc de Wellington and Reynolds Hole, 7; Fisher Holmes and Mdle. T. Levett, 6; and Jules Margottin, which was not included in last year's seventy-two, now stands 47. The following Roses are losing favour:—Edouard Morren has fallen 16 places, Mdle. M. Cointet and Victor Verdier 13, Prince Camille de Rohan 11, Madame Charles Wood 10, Dupuy Jamain and Emily Hausburg 9, and Princess Mary of Cambridge, which was placed 51 last year, this year is not placed at all. These remarks apply only to the general election of the best forty-eight.—CURATE OF HOWDEN.

THE INTERNATIONAL FRUIT SHOW AT THE PARIS EXHIBITION.

THE great feature of this Show was the competition between the numerous local societies of France, Austria, Denmark, Brussels, the Netherlands, &c. The staging for this portion of the Show ran north and south the whole extent of the Exhibition, which must have been half a mile in length. Among the many societies competing were those of Villemomble (100 plates), Nancy (1200), Meaux (148), Lille (400), Fontenay-le-Comte, Vendée (250), Orleans and Loiret (400), Lisieux (Normandy), all showing very large collections. But the Brussels Society exceeded all in quantity, as there were two thousand plates shown. Besides these M. Eugene Targent exhibited 120 plates, Madame Claudon 100, and M. F. Jamin about the same quantity. These numerous collections consisted chiefly of Apples and Pears, although some few societies exhibited Grapes and Peaches. But the chief Peaches were arranged in another portion of the Show.

After the fine exhibition of Grapes at the Crystal Palace I was not particularly impressed with any that were shown at Paris. Most of the Apples and Pears were good, the Pears in many cases being exceptionally fine. The Apples were not superior to many I have seen shown at different times in England for colour and general appearance. But there was a superiority in size of many of the kitchen Apples, notably Reinette du Canada, Belle Dubois (Gloria Mundi), Calville Blanche, Emperor Alexander, and a few others. Many of our best kinds of dessert Apples were but sparsely shown, at the same time there were many handsome in appearance, but the quality of which it was of course impossible to ascertain. Besides the Apples mentioned above I saw the following very good:—Royale d'Angleterre, Belle Joséphine, Reinette de Caux, Reine du Reinettes, Reinette Grise du Canada, Bedfordshire Foundling (I was astonished to find this Apple so universally grown), Calville St. Sauveur, Calville Rouge, and others too numerous to mention. I measured two Alexanders of M. Targent, each 15½ inches in circumference. The chief Pears shown for appearance were Duchesse d'Angoulême (everywhere), Beurré Diel, Beurré Clairgeau, Colmar d'Aremberg, General Todt-

ben, Triomphe de Jodoigne, Délices d'Hardenpont, Joséphine de Malines, and Belle Angevine. I would not dispute the dictum of Dr. Hogg as to this Pear being synonymous with Uvedale's St. Germain, but as shown it was browner in appearance than those grown in England. The Grosse Calebasse was very large indeed. The colour of the Austrian Apples was very striking, they outdid for artificiality of appearance a wonderful collection of modelled Apples, Plums, and Pears exhibited by M. Garnier Valletti François of Turin.

Another feature of this portion of the Show might be followed with great advantage by many other societies. The Horticultural Society of Clermont had portioned off a few sorts from their collection, and put up a notice saying that these sorts were not worth growing. I found one sort that I had noted among them, and immediately erased it from my note book. At every show people are to be found jotting down the names of different productions without any knowledge of the qualities of the exhibit. If we could ascertain the bad as well as the good sorts by visiting shows I think it would be of equal benefit.

The other portion of the Show was held in two long buildings between the Exhibition proper and the Trocadéro, adjoining the Seine. In the chief building the first thing that struck the eye was the marvellous collection of Potatoes exhibited by Messrs. Carter & Co. and Mr. W. Porter. In comparison with the exhibits of French growers they were as giants to dwarfs, and the admiration of the French public was unbounded. There were collections of 12, 25, and unlimited. In the collections of 12 and 25 Mr. Porter fairly rivalled his great competitor, but was beaten in the collection, as he showed but 62 sorts against 115 to Messrs. Carter. In Mr. Porter's 12 were International, Blanchard, Brese's Prolific, Climax, Snowflake, Brownell's Beauty, Improved Ashtop Fluke, Napoleon, Radstock Beauty, Early King, Porter's Excelsior, and Crimson Walnut Leaf. In Messrs. Carter's twelve were Brownell's Beauty, Ice Cream, Crystal Palace Gem, Idaho, International Kidney, Emerson's Advance, Superior, Schoolmaster, Early Oneida, Snowflake, Grampian, and Waterloo Kidney. The larger collections contained these and the other chief Potatoes in cultivation. The best show of Potatoes by a French cultivator was that exhibited by M. Vilmorin, who had an even collection of 272 sorts. There were many large collections of fruits, notably M. Leroy's 330 plates of Apples, M. Croux's collection of Peaches, M. J. Margottin's collection of Grapes in pots, M. Oudin's collection of 700 sorts of Apples, chiefly cider fruit; some wonderful Strawberries fruiting four times a year, and many other objects of interest, which would require the whole fortnight the Show is open even to superficial study.—LEWIS A. KILLICK, Langley, Maidstone.

ROSES FOR THE MILLION.

THE million are growers of Roses not for exhibition, but because the Rose of all flowers is the most ornamental, sweetest scented, and most pleasing for bouquets. The election of Roses recorded in your number, September 26th, is an election by exhibitors. Many Roses which ought to be in every garden are omitted as, I suppose, not deserving a place at an exhibition; such as Souvenir de Malmaison, Baron Prévost, Général Jacqueminot, Géant des Batailles, &c. I would suggest an election of Roses most suitable for the garden of the million. 1, The freest bloomers; 2, Hardest; 3, Best for bouquets. Such an election I am sure would be of use to the readers of the *Cottage Gardener*.—ONE OF THE MILLION.

STRAWBERRY GROWING AT SARISBURY, HANTS.

AT Sarisbury in the parish of Titchfield, Hants, about midway between Southampton and Portsmouth, where there is a fine and extensive village green much resorted to by cricketers of the locality, the culture of Strawberries for market is carried on upon an extensive scale, and on land which at first sight would hardly be deemed good enough for the most moderate feeding garden crop; and as it is generally understood that the Strawberry is a gross feeder and requires a fat loamy soil, I was surprised to see broken-up heath land, which a short time previously was growing scarcely anything but furze and heather, covered with strong and healthy-looking Strawberry plants, my visit having been made after the crop of fruit was gathered. I was informed that in this locality almost the earliest Strawberries which reach Covent Garden are grown, and that during the past season upwards of 300 tons of that fruit were sent from the district (which hardly exceeds a square mile) to Covent Garden, Manchester, and other markets.

The adaptability of the soil to the growth of the Strawberry seems to have been a surprise even to the inhabitants, and it is only within a very few years that such an important culture has been so largely developed. Some seven or eight years ago the agent of the principal owner of land in the village, being

dissatisfied with the farming of a piece of heath land, which has a considerable slope towards the north-east, resolved to let it out to cottagers at moderate rents in allotments. The soil of this piece, and of the district generally where the best fruit is produced, consists of a sandy peat mixed largely with small flint stones varying in size from a walnut to a hen's egg, and contains very little loam. The subsoil is sand and gravel, but as brick earth is obtained in the locality it is probable it underlies the gravel at no great depth. The surface in many places is almost white with flints, and a more uninviting material for gardening can hardly be conceived. It seems that an intelligent cottager, having noticed that Strawberries prospered in a market garden in the locality, tried the experiment on a small scale on his allotment. Success attending the experiment he extended it, his neighbours watched and followed suit, and the Strawberry fever quickly became infectious. At the present time nearly the whole field, probably containing 15 acres, is devoted to Strawberries, and most of the available land with nearly every nook and corner in the village from a road upwards is appropriated to the culture of that fruit. Gooseberries, Currants, Cherries, Apples, and Pears are also grown to a small extent, and in some instances with tolerable success; but a first glance is sufficient to show that these fruits, except perhaps the Cherry, are more at home in Kent and elsewhere than at Sarisbury.

The course of Strawberry culture is somewhat as follows:—As early as possible in the season strong runners from fruiting plants are laid in, and about the last week in August or early in September, being then well rooted, they are transplanted in rows from 2 feet 6 inches to 3 feet apart, and about 18 inches in the rows; in some cases, however, the plants are put in about 2 feet 3 inches apart all ways, each plan having its adherents and appearing equally successful in its results. Early planting is not resorted to on account of the difficulties and expense attending the artificial watering of the plants, but the work is deferred until the weather is somewhat cool, and in order that the newly-put-out plants may have the benefit of the autumn rains. My informant, an intelligent cottager, who was one of the first to adopt extensive culture of the Strawberry, stated that not only at planting time but afterwards those Strawberries on ground which contained the most flints did the best, the stones helping to check evaporation, to keep the ground cool and at an equable temperature, and the plants firm in the ground. The suggestion seemed an intelligible one, and leads almost to the conclusion that a mulching of stones would often be beneficial to other crops and plants as well as Strawberries, and recalled to my mind instances where Roses, climbers and trees, prospered with the material portion of their roots beneath a paved surface. On stronger and loamy land free from flints I was told that the crop of Strawberries was not profitable. As the plants at Sarisbury are put in late the produce of fruit the next year is small, and that of the third year is considered the largest and best. The same plants are usually retained for four or five years, but sometimes until the seventh; the ground is then dug over, manured, and replanted with Strawberries again.

The sorts grown are Sir Joseph Paxton and Alice Maud. British Queen and Elton Pine are also partially cultivated, but neither so profitably as the two first, although the Queen appears to succeed on the soil. Elton Pine is, however, being abandoned *in toto*, as the success of the Sarisbury growers is a good deal owing to the precocity of the crop, Strawberries from Sarisbury getting into Covent Garden a few days after those from Cornwall, and preceding the Kentish by nearly a fortnight.

It is said that a good crop has produced as much as £150 per acre, the cost of labour, marketing, manure, and other expenses amounting to about £50 an acre per annum. Mulching with dry littery manure is resorted to as soon as the fruit begins to swell, and after the crop is gathered the plants are lightly forked between. Stable manure is obtained from Southampton and Portsmouth by the river Hamble, which is navigable to the lower part of the village, but as the rise is considerable the cost of haulage is proportionally large. I fear, however, that without a liberal supply of this in hot dry seasons, such as those of 1868 and 1870, Strawberries on Sarisbury land would be a failure.

The village is dry and elevated, and from it views may be obtained on the one side of St. Cross at Winchester, and on the other of Southampton Water and the Isle of Wight. The Oak, Laurel, Cherry, Rhododendron, and Fuchsia Riccartoni seem to flourish in the locality, and since the cultivation of the

Strawberry has become general the price of land has increased largely, and for the same land a rental of £4 instead of £1 per acre may now be obtained. It is rarely that a new industry is so rapidly developed, and it is not often in this country that the agricultural wheels can be so easily turned into horticultural ruts, and in these days of unprofitable farming a further extension of fruit farming to such crops as the Strawberry would be of advantage to the community; and as neither the sunny south nor our transatlantic brethren are likely to be competitors in this branch of fruit culture, at all events until veritable travelling Strawberries are produced, Sarisbury may probably look forward to a prosperous future. As English tastes are now, our Strawberries are not likely to be displaced by the Bordeaux Fraises des Quatre Saisons, which, on account of their better travelling qualities and the admirable manner in which they are packed, are the only foreign Strawberries likely to get into our markets.—T. LAXTON, Bedford.

HARDY PERENNIALS FLOWERING AT LONGLEAT IN SEPTEMBER.

<i>Achillea Ageratum</i>	<i>Lilium speciosum</i>
<i>A. aurea</i>	<i>L. speciosum album</i>
<i>A. filipendulifolia</i>	<i>L. tigrinum Fortuni</i>
<i>A. Millefolium rosea</i>	<i>Linum flavum</i>
<i>A. Ptarmica plena</i>	<i>Lithospermum prostratum</i>
<i>Aconitum autumnale</i>	<i>Lobelia cardinalis</i>
<i>Alströméria psitticina</i>	<i>L. syphilitica</i>
<i>Achusa capensis</i>	<i>L. syphilitica alba</i>
<i>A. italica</i>	<i>L. syphilitica Fabrii</i>
<i>Anemone Honorine Jobert</i>	<i>Lychnis chalcedonica</i>
<i>A. japonica</i>	<i>Lychnis chalcedonica plena</i>
<i>A. japonica hybrida</i>	<i>L. vespertina alba plena</i>
<i>Armeria alpina grandiflora</i>	<i>Malva lateritia</i>
<i>Aster Amellus</i>	<i>Minulus moschatus Harrisou</i>
<i>A. horizontalis</i>	<i>Mouarda didyma</i>
<i>A. longifolius formosus</i>	<i>M. fistulosa</i>
<i>A. Novae-Angliae rubra</i>	<i>M. mollis</i>
<i>A. patens</i>	<i>M. purpurea</i>
<i>A. pendulus</i>	<i>Myosotis palustris semperflorens</i>
<i>A. pulchellus</i>	<i>Nepeta corulea</i>
<i>A. rosmarinifolius</i>	<i>N. macrantha</i>
<i>Calendrinia umbellata</i>	<i>Ocinoemeris helianthoides</i>
<i>Campanula carpatica</i>	<i>Oenothera Fraseri</i>
<i>C. Portenschlagiana</i>	<i>O. macrocarpa</i>
<i>C. punila</i>	<i>O. riparia</i>
<i>Cassia marylandica</i>	<i>O. speciosa</i>
<i>Centranthus angustifolius</i>	<i>O. taraxacifolia</i>
<i>C. roseus</i>	<i>O. Youngi</i>
<i>Centrocampa grandiflora</i>	<i>Ethiomeris saxatile</i>
<i>Chelone obliqua</i>	<i>Papaver nudicaule</i>
<i>Chrysocoma linoxyris</i>	<i>Patrinia scabiosifolia</i>
<i>Clematis integrifolia</i>	<i>Pentstemon heterophylla</i>
<i>C. tubulosa</i>	<i>P. in variety</i>
<i>Colchicum autumnale album</i>	<i>Phlox in variety</i>
<i>C. autumnale album plenum</i>	<i>Phygellus capensis</i>
<i>C. autumnale plenum</i>	<i>Platycodon grandiflorum</i>
<i>C. autumnale striatum</i>	<i>Plumbago Larpete</i>
<i>C. autumnale variegatum</i>	<i>Polygonum Brunoni</i>
<i>C. byzantinum</i>	<i>P. Sieboldii</i>
<i>C. speciosum</i>	<i>P. viviparum</i>
<i>Coreopsis lanceolata</i>	<i>Potentilla Hopwoodiana</i>
<i>C. procax</i>	<i>Fyretum in variety</i>
<i>Crucianella stylosa</i>	<i>Sanguisorba media</i>
<i>Cyananthus lobata</i>	<i>Scabiosa australis</i>
<i>Cyclamen europeum</i>	<i>Scutellaria macrantha</i>
<i>Erodium Manesavi</i>	<i>Sedum spectabile</i>
<i>Eryngium amethystinum</i>	<i>S. spectabile album</i>
<i>E. Bourgati</i>	<i>Solidago elliptica</i>
<i>E. falcatum</i>	<i>S. multiflora</i>
<i>E. tricuspidatum</i>	<i>S. reflexa</i>
<i>Eucomis punctata</i>	<i>S. squamata</i>
<i>Eupatorium purpureum</i>	<i>Spiraea Filipendula plena</i>
<i>Gaillardia amblyodon</i>	<i>Stevia canescens</i>
<i>G. grandiflora</i>	<i>S. Mexicana</i>
<i>Galettia cana</i>	<i>Sylphium trifoliatum</i>
<i>G. hyssopifolia</i>	<i>Tradescantia virginica in var.</i>
<i>Geranium striatum</i>	<i>Tritoma grandis</i>
<i>Geum coccineum</i>	<i>T. Uvaria glaucescens</i>
<i>G. coccineum plenum</i>	<i>Tritonia aurea</i>
<i>Helianthus multiflorus</i>	<i>Tunica Saxifraga</i>
<i>H. multiflorus plenus</i>	<i>Verbena venosa</i>
<i>Hieracium aurantiacum</i>	<i>Veronica virginica</i>
<i>Hypoxis villosa</i>	<i>Viola in variety</i>
<i>Inula squarrosa</i>	<i>Zephyranthus candida</i>

THE WARS OF THE ROSES.

CANON HOLE's position as an exhibitor of Roses is too well known to require any comment from me, but your correspondent, "WYLD SAVAGE," having relegated him to the third rank among exhibitors, and also stated that "It is almost a certainty that Messrs. Baker and Jowitt are first and second at any show," I may state a few facts bearing on the matter. I believe Mr. Hole and Mr. Jowitt have competed together at only four shows within the last three years—viz., Nottingham

in 1876, when Mr. Hole was *facile princeps*, winning £25 in prizes; St. James's Hall, 1877, when Messrs. Jowitt's, Baker's, and Hole's Roses were so nearly equal as to cause the remark, "The Judges cannot make much of a mistake whichever they put first;" the National Society's London Show this year, held at the Crystal Palace, when Mr. Hole was put third to Mr. Jowitt's second; and the National Society's Provincial Show, held at Manchester a week afterwards, when Mr. Hole turned the tables, winning the premier amateur prize, Mr. Jowitt being second: so that as far as those two are concerned it is game and game, and who shall name the winner of the rubber?

As a rule the Caution Roses are not on until Mr. Baker's are over, and the London shows of late years have been held too early for the Nottingham "maidens," but I can testify to their success when pitted against not merely amateurs, but such nurserymen as Cranston of Hereford, Merryweather of Southwell, and Frettingham of Beeston. Possibly "WYLD SAVAGE" may not have attended the Nottingham Shows of 1875 and 1876. Had he been there he would have seen as strong competition as at any of the shows he names, with the exception of the National and Crystal Palace Shows; and being called on to judge at both Nottingham and the National, I can say that the blooms staged at Nottingham were equal, and in some of the smaller classes superior, to those exhibited in London. I do not for a moment wish to disparage the Roses of my good friends Messrs. Baker and Jowitt, but I feel confident that when Caution is in bloom Mr. Hole can hold his own with either or both of "WYLD SAVAGE's" "giants."—FENMAN.

PSYLLIODES CHRYSOCEPHALA—A NEW ENEMY OF THE TURNIP.

IN the October number of the "Entomologist," Mr. E. O. Ormerod publishes his observations upon the above species, concerning which he says—"About March 18th of the present year, whilst examining a bed of white Turnips running up into flowering stems in my garden near Isleworth, I noticed that many of the shoots were channelled internally by small grubs. In some cases these galleries appeared only just begun, and were still only horizontal piercings of distances along the stem, with the larva occupying more than half the length of the tunnel, but more frequently, judging by the discoloration and the progress of the injury, the work had been commenced some time before at the ground level, and had been carried thence some inches up the stem, occasionally diverging into the petiole of the leaf, and later on the larval workings were to be found both in the centre and beneath the ring of the bulb itself. The bed of Turnips, as well as some others in the neighbourhood, proved greatly infested. Of thirteen plants brought in for examination only one proved free from attack, but the larvæ were not numerous in each plant; sometimes as many as three or four were to be found at distances along the galleries, sometimes only a single specimen was discoverable. The injury being new to me I isolated some plants with the larvæ, which developed about the beginning of June into the well-known beetle *Psylliodes chrysocephala*, distinguishable from its near allies the Turnip beetles technically by peculiarity of the antennæ and posterior tarsi, and to general observation by the rather larger size, robust form, and even greater saltating powers." Mr. Ormerod then minutely describes the larva and pupa, concluding with the statement that, though this enemy is not one likely to prove markedly injurious, it should be promptly extirpated where noticed by burning infested bulbs or opening-up the ground to insectivorous birds.

MIXED PLANTING OF FLOWER BEDS.

SOME of the prettiest and most chaste arrangements in the planting of flower beds are to be found in those planted with two or more kinds of plants in mixture. In those gardens where there is not much space at command for securing variety year after year, and more especially in gardens where the working staff is not sufficient for the wants of the place, the practice of employing mixtures in planting the flower garden becomes a matter of some importance, but even in the most pretentious gardens a few beds or borders in mixture lend an added attraction.

There are some recognised styles of planting—such, which have been in use for many years, as mixing *Geranium Mangles'* Variegated with *Verbena Purple King*, and *Polemonium cæruleum* variegatum with blue *Lobelia*. One of the most telling

beds I have seen this season was a mixture of *Geranium Flower of Spring* and *Viola The Tory*. The deep purple of the *Viola* and the flower of the *Geranium* told wonderfully, the white of the foliage giving a most chaste appearance to the whole bed; but it is in light mixture that the happiest effects are produced. A narrow border I saw a few weeks ago planted with *Lobelia Lady Macdonald*, a variety very similar to *Paxtoni*, and a very few plants of the old *Verbena* *melindres splendens* dotted amongst them, made a very happy effect. Two large beds, which have attracted great attention, from lady visitors especially, we have this season planted with a mixture of *Geranium Flower of Spring* and *Koniga variegata* in mixture. A narrow band of *Perilla nankinensis* divides these from an edging of *Geranium Mangles'* Variegated. Masses of scarlet *Geraniums* or yellow *Calceolarias* attract no attention compared with these beds. Another simple mixture, which has given great satisfaction this year, is the front portion of two broad borders, and planted as follows:—The edging line of *Dactylis elegantissima* alternately with *Viola Sir Walter Scott*, then a line of *Festuca glauca*, then two lines of the *Dactylis* mixed with *Verbena pulchella*, then another line of the *Festuca*, and a line of *Dactylis* alternately with *Viola Alpha*. The material in this case is of the commonest, and the effect excellent.

Very effective single rows may be formed of yellow, purple, and white *Violas*, of pink, scarlet, and variegated *Geraniums*, and of *Perilla*, *Calceolaria* (yellow), and *Cineraria maritima*. Such rows are especially suitable for small places where a few plants of a kind may be turned thus to the best advantage without in any degree lessening the effect of the whole. As arrangements for next season's planting should either have been made or in progress, these hints on a simple and effective mode of planting beds and borders may be of use. One of the most prominent beds in the flower garden here will next season be planted with *Geranium Flower of Spring* and *Viola Duchess of Sutherland* (very light blue) in the main block.—R. P. BROTHERTON, *Tynningham*.

[We have seen such mixtures as those described, and they were very beautiful and much admired.—EDS.]

WORK FOR THE WEEK.

KITCHEN GARDEN.

Lettuces for Early Spring.—Plant out at once Lettuces from the August sowings. If the soil be light it must be made firm by treading. A south border should be chosen, or failing that an east border or a warm situation, planting in rows a foot apart and the plants 6 inches asunder, with a view to every other plant in the rows being cut for very early use. South borders are of such value for early produce that large extents cannot be set apart for particular crops. We therefore plant the Lettuces where we shall presently sow early Peas in rows 4 feet apart, having a row of Cabbage Lettuce on each side of the rows of Peas and 1 foot from them, with a row of the *Cos* varieties in the centre—i.e., two rows of Cabbage and one row of *Cos* between each two rows of Peas. The small plants of the *Cos* varieties of Lettuce left after planting out should be pricked-out in a bed in a sheltered situation, and they will be serviceable for spring planting. We plant at this time Lettuces from the August sowings in frames, *Cos* at 1 foot distance apart, *Bath Sugarloaf* being preferred, and between each row *Commodore Nutt*, *Early Paris Market*, or *All the Year Round* Cabbage varieties; the Cabbage Lettuces being cut when young do not interfere with the *Cos* varieties. These come in before those in the open ground, it hardly being possible to have too much early salading. Accommodation must be at once provided for Lettuces and Endives, which are to be lifted from the open ground to continue the succession when the supply from the open ground is over. Allow no opportunity to pass without giving attention to earthing-up Celery requiring it.

Complete the pricking-off of Cauliflowers in frames or under handlights, it being important that in the case of both these and Lettuces that they have full exposure, the lights only being employed in case of very heavy rains (then tilted) and in case of frost. Those whose frame space is limited should prick-off a good breadth of Cauliflower in a border 18 to 24 inches wide in front of a south wall, and they frequently winter as well as those in frames. Pay strict attention to Cauliflowers which are fit for use in taking them up in case of frost and laying them in pits or sheds, when the heads will remain in condition for some time.

HARDY FRUIT GARDEN.

Filberts and Nuts should be gathered, spreading them very thinly upon shelves in an airy room, but not removing the husks, as for a time the nuts are placed upon the table in their natural covering. Push forward the making of fruit borders, having all in readiness so that there may not be any delay in planting so soon as the trees come to hand. An early choice of trees at the nursery is important, and of equal importance is it to have the trees

carefully taken up with the loss of as few roots as possible, neither should they be exposed to the atmosphere so as to become dry. In the selection of trees for walls choose young trees, not those that have been repeatedly headed back, for though they may have stronger and more shoots than two-year-old trees, their roots are very much more extended and comparatively devoid of fibres. The fan shape is the best, it being important the shoots be moderately strong and equal, or nearly so, in strength, for if the shoots on one side of the tree be stronger than the other it is hardly practicable to secure well-balanced form in the specimen; they must also be clean and well ripened. If the wood be sappy and green and has the least trace of mildew, gum, or canker, pass such trees by; they are dear at any price. A fan-trained tree should have five shoots, more not being objectionable provided they are not the result of frequent headings and are evenly balanced.

Selection of Fruits for Various Aspects.—South walls are suitable for Apricots, Peaches, and Nectarines, and a tree or two of Cherries and Plums which it is desired to have early. Of Apricots, Oullins Early, Peach, New Large Early, Kaisha, Hemskerk, St. Ambroise, Moor Park, and Belle de Toulouse are good; Breda, Shipley's, and Royal having firmer flesh are only desirable for preserving, not being nearly so rich as the others. Peaches.—Early Beatrice, Hale's Early, Dr. Hogg, Early York, Grosse Mignonne, Royal George, Noblesse, Violette Hâtive, Raemackers (a form of Noblesse, later and higher-coloured), Barrington, Walburton Admirable, Lord Palmerston, and Radclyffe form a good succession. Nectarines.—Lord Napier, Rivers' Orange, Stanwick Elruge, Elruge, Violette Hâtive, Rivers' White, Hardwick, and Albert Victor. Three Plums for a south wall are July Green Gage, De Montford, and Green Gage. Three Cherries.—Early Jaboulay, Black Tartarian, and May Duke. If greater variety is wanted Early Red Bigarreau, Governor Wood, and Elton may be added. Half a dozen Pears for a similar position are Summer Doyenné (Doyenné d'Été), Beurré de l'Assomption, Jargonelle, Clapp's Favorite, Souvenir du Congrès, and Beurré d'Amanlis. Pears are much finer in appearance when grown against a south wall; but as a rule they should be gathered so soon as indications of ripening commence, as they are often mealy if left upon the trees until fully ripe. Figs do well against a south wall: Brown Turkey, White Marselles, and Brunswick are the best. East walls answer admirably for Plums: Denniston's Superb, Huling's Superb, Jefferson, Kirke's, Transparent Gage, Coe's Golden Drop, Purple Gage, Blue Impératrice, Ickworth Impératrice, Reine Claude de Bavay, Guthrie's Late Green, and Late Rivers are all good dessert kinds. Culinary Plums.—Early Rivers, Early Orleans, Orleans, Prince of Wales, Prince Englebert, Victoria, Pond's Seedling, White Magnum Bonum, and Belle de Septembre. East walls answer well for Cherries: good sorts are Belle d'Orleans, Werder's Early Black, Frogmore Early, Black Eagle, Reine Hortense, Mary, Late Duke, Bigarreau Napoleon, and Büttner's Yellow. The Plums and Cherries named for a south wall answer well for an east aspect. West walls suit Pears.—White Doyenné, Beurré Superfin, Marie Louise d'Uccle, Durandau, Doyenné du Comice, Conseiller de Cour, Marie Louise, Thompson's, Beurré Diel, Van Mons Léon le Clerc, Passe Colmar, Beurré Bachelier, Beurré d'Arenberg, Glou Morceau, Knight's Monarch, Winter Nelis, Joséphine de Malines, Beurré Sterckmans, Beurré Rance, Ne Plus Meuris, Bergamotte Esperen, Passe Crassane, Van de Weyer Bates and Basiner. North walls are suitable for the Morello Cherry, which should be the principal tree employed; but other Cherries succeed—viz., Early Red Bigarreau, May Duke, Governor Wood, and Elton. Pears.—Jargonelle, Williams' Bon Chrétien, Comte de Lamy, Marie Louise, and Beurré Diel. Plums.—Victoria, Jefferson, White Magnum Bonum, and Blue Perdrigon. North walls are available for Red and White Currants.

Distances for Planting Wall Trees.—The distances at which wall trees should be planted depends upon the height of the wall and upon what stock the trees are. Pears against a 12-foot wall should be planted 24 feet apart, a 10-foot 30 feet, or a yard less of lateral extension for every foot decrease in height of wall; Apricots 21 feet apart upon a 12-foot wall and 24 feet upon a wall 10 feet high. Plums and Cherries the same as Apricots. Peaches and Nectarines 20 feet upon a 12-foot wall, and 24 feet apart upon a 10-foot wall. Figs should be planted 18 feet apart upon a 12-foot wall, and 21 feet apart upon a 10-foot wall. Apples are well worth a place against east or west walls in cold localities—viz., Golden Pippin, Ribston Pippin, Pearson's Plate, Adam's Pearmain, Scarlet Nonpareil, Braddick's Nonpareil, Margil, Pennington's Seedling, Downton Pippin, Barcelona Pearmain, Bess Pool, Golden Russet, Sturmer Pippin, Cox's Orange Pippin, Duke of Devonshire, Lord Burghley, Ashmead's Kernel, and Wyken Pippin. They require to be planted the same distance apart as Pears, and succeed, like them, either trained fan or horizontal. Apples and Pears upon the dwarfing stocks—i.e., Paradise and Quince respectively, horizontally trained, may be planted 12 feet apart for walls 8 to 10 feet high; but upright-trained trees are more suitable, planting them 6 feet apart for a wall of 8 feet, and 3 or 4 feet apart for one of 10 to 12 feet.

FRUIT HOUSES.

Vines.—Late Grapes will be thoroughly ripe, they having been

hastened in spring by the aid of fire heat, which is much preferable to having, after October comes in, to maintain a forcing temperature to secure the ripening of the fruit. In the latter case the temperature must not be less than 70° to 65° at night, 75° to 70° by day, with a rise of 10° to 15° with sun until the Grapes are ripe; at least the fires must be kept going until the wood is brown and hard. The fruit being thoroughly ripe, in which state only can the Grapes be expected to winter satisfactorily, and the wood thoroughly matured, all spray or laterals may be removed down to the main buds, ventilating liberally upon all favourable occasions. Fire heat will then only be necessary to prevent the temperature falling below 50°. To prevent dust settling upon the berries raking or sweeping must not be practised. Mats or dry straw laid over the inside borders will to some extent prevent evaporation, assist in keeping the atmosphere dry, and prevent the soil cracking. The outside borders must, if the fruit is to keep satisfactorily, be covered over, wooden shutters being the best, tarpauling over bracken or straw answering well, or a good thick thatch of bracken or straw will be serviceable. Fermenting material must at once be prepared for placing in houses where early forcing is contemplated, and for covering outside borders about a fortnight prior to closing the house, that for the inside not being placed until starting time. It will aid in the more regular and freer breaking of the Vines. Tree leaves with stable litter in about equal parts thrown into a heap, damped if dry, and turned over once when getting warm, and again damped if necessary, will give a more reliable heat than all dung. If bottom heat can be given the Vines in pots to start them they will mark its appreciation by breaking well. Provided there is a bed of about 3 feet depth and 4 feet or so wide the pots may be raised upon loose bricks in pillar fashion, so that their rims are slightly higher than the pit edge, and so that the pots will be in the centre of the bed. Leaves being put in to fill the pit a gentle warmth will be afforded the Vines, and the roots will pass from the pots into the leaves, deriving support beneficial to the growth of the Vines. The temperature at the roots ought not to exceed 75°, and the top heat 55° to 50° by artificial means, until the eyes swell, then gradually increase it to 65° to 60° when they are breaking. The canes should be depressed to a horizontal position to secure their breaking regularly. Damp the houses and canes morning and afternoon. Young Vines have a disposition to keep on growing to a late period; check them by stopping the shoots moderately, and facilitate the ripening of the wood by a high and dry temperature by day, shutting off the heat and keeping the ventilators open by night.

Cherries.—The trees in pots should be examined. Any that require larger pots should be shifted, disentangling the roots around the sides of the ball with a fork. Trees that are forced annually without being placed in larger pots should have the drainage rectified, a few inches of the soil from the base removed, the roots shortened, and fresh soil given—fibrous loam with about a tenth of road scrapings or old mortar rubbish added, removing also the loose surface soil and replacing with the above compost, with a fifth of well-decayed manure added and a sprinkling of half-inch bones. They may be plunged in a sheltered situation, previously giving them a good watering, and then covering over the surface of the pots with litter. If any trees in the house require to be replaced it should be done directly the leaves have fallen. Trees trained to walls for four to six years are best. Borders 6 feet wide and 2½ deep, well drained, are suitable—indeed better than wider borders. Good turfy loam suits admirably, with an admixture of road scrapings or old mortar rubbish. It should be made tolerably firm. Early Jaboulay, Black Tartarian, May Duke, Early Red Bigarreau, Governor Wood, and Elton, are good sorts for forcing.

PLANT HOUSES.

Orchids.—As the days shorten and the cold increases the temperature must in the various structures also decline. In the East India house a mean of 70° by day and 60° at night will be sufficient; for the Cattleya house 65° by day and 55° at night; the Odontoglossum house 55° by day and 45° by night will be desirable temperatures. Vandas, Aërides, Saccolabiums, and other plants in an active state will require water, but it must not be given in such quantity in July. The moisture must be in proportion to the diminished temperature and ventilation. Very little ventilation will now be necessary except when mild, then a little air may be given. Syringing overhead for the most part will not be required. Dendrobiums, Cattleyas, &c., having completed their growth will require very little water. Calanthes are throwing up their flower spikes and should have every encouragement in the way of heat and moisture, keeping the leaves clean by frequent spongings. Zygopetalums or other plants commencing to grow must be kept moderately moistened, placing where they can have plenty of light and moisture, repotting them if necessary. Plants as they ripen off must be removed to a drier atmosphere. Phalænopses must be very carefully supplied with water, for if the leaves are overcharged with moisture they are liable to rot at this season. Orchids in bloom may be removed to a drier house, and the flowers will last much longer than in a moist atmosphere. Anæctochilus under bellglasses must have the moisture sponged

off the glass every morning, the glass being tilted to admit fresh air, watering very sparingly or the roots will decay. A temperature of 65° to 55° is suitable for them at this season.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense. Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (J. D.).—Mr. Mechi's book is very reliable, but we know nothing of the other work you speak of. "How to Farm Two Acres Profitably," published at this office, will suit you perhaps. It can be had by post for thirteen postage stamps. (A. B.).—The book entitled "Our Farm Crops" is published by Fullerton, and a copy can be had by ordering through a bookseller. (R. D.).—We know of no book such as you ask for, but our "Garden Manual," price 1s. 6d., contains the information you need. (Jacko).—Our "Garden Manual," 1s. 6d., post free 1s. 9d.; "Indoor Gardening," 1s. 6d., post free 1s. 7½d.; and "Outdoor Gardening," 1s. 6d., post free 1s. 7½d., would suit you. They are published at our office. (Mr. W. Pickup, Waukonit).—There is no English translation of the book you mention. The only complete work on the subject in English is Dr. Hogg's "Fruit Manual."

TO REMOVE THISTLES (A Very Old Subscriber).—There are various kinds of Thistles which infest pasture land, but especially the Spear or Bur-Thistle (*Carduus lanceolatus*), and the Field Thistle (*C. arvensis*). The former being a biennial can more easily be got rid of than the other, by preventing its seeding, and constant eradication. The latter must be continually spudded so as to prevent it making any quantity of leaves, for being a perennial you cannot get rid of it by any other means unless you break-up the pasture, which would never do.

ROSES (J. A. X.).—For exhibition purposes you cannot err by selecting the number you require from the "Rose election" lists, and for garden decoration the Rev. W. F. Radclyffe has submitted an excellent selection in another column.

ROSES DISEASED (W. K.).—All the effects you mention are caused by failure of a supply of sap. Mulch the surface of the soil, and water copiously in dry weather.

GERANIUMS IN SOUTH DEVON (S. H.).—In exceptionally mild winters we have known Geraniums and Calceolarias live without protection, but they do not usually thrive well afterwards. Young plants planted out in the early summer months soon outstrip them. Sometimes the winters there are, as elsewhere, severe. We have known huge bushes of Myrtles killed to the ground which were growing in one of the mildest and most sheltered positions in South Devon.

HARDY FLOWERS (E. P. Y.).—All the plants you mention are hardy.

WORCESTER PEARMAN APPLE (H. F. C.).—We think this excellent Apple is sufficiently hardy for a standard in the south of Scotland. The Pear which you describe is probably the Black Worcester.

CULTURE OF LILY OF THE NILE (Susser).—The roots of *Richardia aethiopica* should not be subjected to a drying-off process at any period of the year. It is a native of Africa, and is found near the Cape, growing abundantly in swamps and pools of water. This fact, together with a knowledge of the seasons of its native habitat, are our best guides to its successful culture. Spring time at the Cape begins in July or early in August, and that is precisely the time when this plant begins to push forth new growth with us. To turn this fact to full account we take care to shake the plants out of the pots in June, to divide them if necessary, and to plant them like Cabbage plants in a rich bed of soil in the open garden. In the north we should lift them and repot at the beginning of September; in the south at the end of that month, leaving the pots out on a bed of coal ashes for a week or two, or rather so long as there is no risk of damage by frost; then they are placed in the greenhouse, and soon begin to flower, and continue doing so long after Christmas if they have plenty of water and occasional doses of liquid manure. When turning out the plants in spring it is our practice to turn our surplus stock to valuable account by planting clumps in streams and ponds wherever the water is deep enough to afford thorough protection to the roots from frost in winter. Such clumps form a prominent and striking feature among our aquatic plants, among which the *Richardia* now ranks as high as it does among pot plants.

CLERMATIS JACKMANI IN BEDS (Idem).—When other plants are planted in a bed of Clematis the only precaution necessary is to see that its roots sustain no injury either from laceration or starvation, which will be best effected by heavy top-dressings of rich soil and the exercise of due care in the planting or clearance of other plants. Bnlbs may be planted in the bed for producing a display in spring, but we do not think that annuals could be grown with the Clematis for flowering late in autumn.

PRESERVING THE AUTUMN-TINTED LEAVES OF VIRGINIAN CREEPER.—A correspondent desires to know the proper mode of preserving the leaves intact. Owing to the formation of the two lower leaves in a group of five the ordinary mode of pressing in a book is fatal, the said lower leaves usually falling off on being flattened.

AGAPANTHUS UMBELLATUS (G. H. F.).—It is a rhizome, and neither a bulb nor a tuber.

STOVE (D. W.).—Write to Mr. T. Read, Engineer, 258, Old Street, London.

TROPÆOLUMS CHANGING COLOUR (R. J. W.).—All florists' varieties raised from seed are liable to vary.

PERENNIALS (H. S. B.).—We scarcely understand your letter, which stipulates for hardy plants "that will flower from Christmas to Michaelmas;" in other words, from the end of December to the end of the September following, excluding those flowering in October, November, and December. If that is what you mean the number is legion. Send to Mr. Ware, Hale Farm

Nurseries, Tottenham, London, for his catalogue of hardy plants. If you state the number of plants you require we shall be glad to aid you.

STRAWBERRY FOR LIGHT SOIL (P. B.).—President is one of the best varieties for light soil. Garibaldi also usually succeeds well on any fertile soil.

OSAGE ORANGE.—"South American" wishes to know where he could obtain seeds of this shrub, and how to raise a fence of it.

ROSES (J. R. C.).—When beginning to start in the spring water copiously once a week with weak liquid manure; it will impart vigour to the trees.

COMPOST FOR VINE BORDER (Jacko).—Turfy loam taken from a pasture 3 inches thick with its turf or not deeper than 6 inches, and where the soil is light preferably to heavy. This should be laid in a heap until the turf is reduced, then chopped up not very small, adding a tenth part of old mortar rubbish and a twentieth part of half-inch bones. If you use heavy clay soil add a sixth of old mortar rubbish, a tenth of charcoal, and a like quantity of charred vegetable refuse, and a fourth of fresh stable manure with the straw shaken out. The depth should be 2 feet 6 inches, and at a bottom of the border have 9 to 12-inch drainage of stones or bricks. The same soil would grow Roses, but it is not desirable to have them in the same house.

COMPOST FOR PEACHES (Idem).—Strong loam is most suitable with an admixture of about a tenth part of old mortar rubbish or chalk. Your clayey soil would grow them well, it being well drained, the border being 2 feet 6 inches deep. Roses would do better with them than with Vines.

CUCUMBERS AND MELONS IN GREENHOUSE (Idem).—In summer they would succeed, provided they were kept in a temperature and moisture suited to their requirements, which is fatal to greenhouse plants. It is not necessary to have water between the top of the flue and the soil, but a foot in thickness of rubble to prevent the due heat burning the roots. Turfy loam is a suitable compost, that for Melons being preferably heavy.

GREENHOUSE (Cottager).—If you have a wall the cheapest form of house would be a lean-to without front lights, which would not require more than three openings at the top for ventilation of about 3 feet by 2 feet. It would not be practicable to grow Cucumbers profitably along with plants unless you had the house for wintering Pelargoniums and other bedding-out plants in winter, and after the middle of May occupy it with Cucumbers. Competition is now so keen that unless you give in the labour there is little prospect of profit.

ROSES IN POTS UNDER GLASS (W. H.).—Tea Roses would answer admirably, training them to the rafters of the house as proposed. The weak growers would not be suitable, but the following would answer:—Marie Sisley, Madame Willermoz, Niphetos, Sombreuil, Madame Bravy, La Boule d'Or, Madame Jules Margottin, Madame de St. Joseph, Duchess of Edinburgh, Adam, Catherine Mermet, Coquette de Lyon, Céline Forestier, Belle Lyonnaise, Amazone, Comte de Paris, Safrano, and Marie Van Houtte. Maréchal Niel must not be omitted.

FORM OF KITCHEN GARDEN (J. F.).—For the size you name we should prefer the square to a parallelogram, as the width of the latter is so disproportionate to the length; 60 yards long and 40 yards in breadth would be better, which we recommend preferably to the square, though that would answer well. Brick walls are most suitable; concrete walls we have no experience of. Pears for standards are Jargonelle, Williams' Bon Chrétien, Louise Bonne de Jersey, Comte de Lam, Marie Louise, Beurré Diel. Walls.—Our selection would be Marie Louise, Gansel's Bergamot, Beurré Diel, Forelle, Fasse Colmar, Van Mons Leon le Clerc, Glon Morceau, and Bergamotte Esperon. Peaches: Hales' Early, Dr. Hogg, Grosse Mignonne, Belle-garde, and Noblesse. Figs: Brown Turkey and Brunswick.

HEATING HOUSE WITH FLUE (Idem).—It is an impossibility to tell how many cubic feet of air will be heated to a given temperature without knowing the heat of the radiating surface, but we find a flue from a boiler passing through a house 10 to 12 feet in width gives off sufficient heat to exclude frost in a house 20 to 24 feet in length, the flue being raised above the floor and having all its surfaces exposed.

CLIMBERS FOR WALL IN SMOKY LOCALITY (C. H. J.).—Ivy is the best of all, choosing for so low a wall the small-leaved varieties, as *Hedera dentata*, *Donairensis*, *rhomboida obovata* and its variegated form *guttata-folia*, *elegantissima*, *taurica*, and *tricolor variegata*. Clematises also do well.—Albert Victor, Lady Londesborough, Miss Bateman, Jackmanii, Lawsoniana, and Lucy Lemoine. Honeysuckles.—Scarlet Trumpet, Early White Dutch, and *flexuosa*. *Jasminum nudiflorum*, *J. officinale*, *Kerria japonica*, *Ligustrum japonicum*, and *Ampelopsis Veitchii*. Those marked with a star for the south wall along with Tea Roses *Souvenir d'Elise*, Madame de St. Joseph, Madame Jules Margottin, Madame Willermoz, Homère, Marie Sisley, Madame Berard, Marie Van Houtte, Duchess of Edinburgh, Comte de Paris, and Céline Forestier. Roses do not do well in smoky districts; a few of the best are Alfred Colomb, John Hopper, Charles Lefebvre, Sénateur Vaisse, Madame Victor Verdier, Baronne de Rothschild, Boule de Neige, Auguste Neumann, Claude Levet, François Michelon, Général Jacqueminot, La France, Jean Dalmati, Dupuy Jamin, François Courtin, Leopold II., Felicien David, Claude Levet, Baronne Louise Uxkull, Madame Clert, Louise Wood, Maréchal Vaillant, Thomas Methven, Olga Marix (all Hybrid Perpetuals), and Gloire de Dijon.

FORMING CROQUET GROUND (Amateur).—Turn up the whole of the ground and remove the roots of the weeds of a perennial character, and, making the surface even, lay the part intended for croquet ground with turf, which is preferable to sowing with grass seeds.

ROSES FOR ELEVATED POSITION (Portmore).—Over 500 feet above sea level we have Hybrid Perpetuals Alfred Colomb, Annie Laxton, Baronne de Rothschild, Baronne Louise Uxkull, Bessie Johnson, Boule de Neige, Capitaine Christy, Charles Lefebvre, Claude Levet, Comtesse de Chabillant, Comtesse d'Oxford, Duke of Edinburgh, Edouard Morren, Elie Morel, Dupuy Jamin, Etienne Dupuy, Felicien David, François Courtin, François Michelon, Général Jacqueminot, John Hopper, La France, Lord Raglan, Louis Van Houtte, Madame Clert, Madame Lacharme, Madame Laurent, Madame Victor Verdier, Maréchal Vaillant, Mrs. Veitch, Olga Marix, Prince Camille de Rohan, Princess Beatrice, Sénateur Vaisse, Thomas Methven, Thomas Mills, Princesse Antoinette Strozio, Mary Turner, Miss Hassard, Comtesse de Serenye, Arthur Oger, and many more, but those succeed best. Bourbons—Armoss, Baronne Gonella, Sir Joseph Paxton; and Tea Gloire de Dijon.

PEARS DECAYING (H. N.).—They have probably been left too long on the trees. The specimen sent is scarcely recognisable, but we think it is Beurré d'Amanlis.

LOMBARDY POPLAR STEMS DAMAGED (*Poplar*).—The trees that have been scrubbed halfway through the stems would be better removed and replaced by fresh trees, as if left they would be liable to have the heads snapped off at the wounded part by high winds.

HOUSES FOR GROWING SMALL PLANTS (*S.H.*).—The best form of house is the span without side lights, having ventilation only at the upper part of the roof, and a pathway up the centre about 2 feet wide, and a bed on each side of 4 feet width. It is sufficient if the roof has a fall of 1 foot in 3 feet. The side walls need not be more than 2 feet 6 inches high. A sunken path will give all the head-room required. Shelves may be put up, but they are more injurious than otherwise, as the drip from the pots in watering is injurious to the plants under the shelves.

SELECT PHLOXES (*H. E. B.*).—*Early-flowering*: A. McKinnon, rosy purple, crimson eye; Magnum Bonum, rosy crimson, rose eye; The Shah, rosy purple; John Watson, white, shaded rose, crimson eye; Miss Robertson, white; Mrs. Thorn, white, crimson eye; Perfection, white, rose eye; Duchess of Athol, white, rosy crimson eye; Rosy Circle, rosy lilac; Archibald McKeith, rosy purple; Miss Doig, white, shaded rose, crimson eye; and Elvina, rosy crimson, dark eye. *Late*: D. P. Laird, rosy lilac, crimson eye; Lothair, light scarlet, shaded purplish violet; Madame Damage, white, marked purple; Mrs. Standing, pale rose, rosy crimson eye; Monsieur Delamore, red, black centre; Regalia, rosy crimson, dark eye; James Allan, salmon scarlet, crimson eye; Lady Middleton, white, rosy crimson eye; Flora McNab, rosy pink, magenta eye; Monsieur Hugh Low, red purple; White Lady; Aurora Boreale, salmon vermillion; Rev. W. Baillie, rosy purple, crimson eye. There is not much difference in the height, which depends considerably upon the richness and moisture of the soil. Spring is the best time to plant, doing so early before much growth is made.

CHRYSANTHEMUM BUDS DESTROYED (*W. T. F. M. J.*).—We should attribute the loss of the buds to some caterpillar, which frequently does considerable mischief. They are usually secreted in the centre of the shoots among the leaves, feeding upon the buds. We cannot form an opinion of what the small grubs are to which you refer.

PRECEDENCY (*W. K.*).—We cannot undertake to answer the question.

NAMES OF FRUITS (*Lady M. T.*).—The two Apples sent are the *Ross* and *Nonpareil*.

NAMES OF PLANTS (*L. Hanson*).—We do not recognise the specimen. Leave your Rose buds till the spring before cutting the Briars back. (*Ramalis*).—*Nephrolepis exaltatum*. The small white dots are young sori. (*A. B.*).—1, *Adiantum concinnum latum*; 2, *A. trapeziforme*; 3, *Phlebodium aureum*; 4, *Pteris serrulata cristata*. (*A. L.*).—*Pyrethrum uliginosum*.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

STORING AND PRESERVATION OF ROOTS.

THE cost and charges in various ways of producing root crops are so great that it is of the utmost importance the roots should be as carefully and economically preserved as possible, not only when they may be required for the stall feeding of fatting bullocks or dairy cows, young stock, &c., but also when they are to be fed by sheep in the open fields. We will first consider the question of storing for the winter feeding of horses, cattle, pigs, &c., as being the most important and leading branch of the subject. The growth of roots for consumption on the home farm has much extended during the last ten or twelve years in consequence of the greatly increased number of cows kept for dairy and milking purposes. Mangolds with a portion of carrots upon the sandy soils are now generally grown with the view of being stored for use during the winter and spring months, the mangold being required for general purposes on the home farm; but carrots are required for use first, as they do not keep so well as mangolds, besides which they gain nothing by keeping, and are excellent food at any period of their growth; whereas mangolds not only keep well but improve by keeping when properly preserved by careful storing at the right time. The best time to commence storing mangolds on the home farm is what we have first to consider, for these suffer more from frost than any other roots. The best time for lifting mangolds is from the 20th of October to the 1st of November. It is, however, a question of early or late sowing, for when sown early the crop may be sufficiently ripe for storing the second week of October; if sown late the roots will not be ripe in the second week of November. But this matter in a late crop should not be allowed to interfere with the taking-up; for they will always keep better in heap or store if they are unripe. We have often noticed that ripe roots in the work of carting receive blows and bruises which leave a black mark, and sometimes decay ensues in the heap; on the other hand, when the roots are growing and unripe at storing time, every bruise or injury the roots receive in lifting or carting will heal in the store,

because vegetation will be partially continued in the heap if the roots have been properly and carefully treated at the time of pulling. This brings us to the point as to how the roots should be treated in taking them out of the land and preparing them for the heap. It is a common practice to let the work of lifting, &c., at so much per acre. It is, however, in such cases often done very roughly and without sufficient care. After pulling the roots, which should be done by hand, instead of cutting off the greens we prefer to have them twisted off, because the heart bud of the plant is then left entire and the bottom of the strong succulent leaves are also twisted off. We find the roots always keep best in this way, because they strike-out some greens in the heap, and, in fact, partially vegetate, which is quite sufficient to heal any bruises they may have received at the time of heaping. Again, when the leaves are twisted off there are no stumps of leaves left as there is when cut off, neither is there any fear of damage to the roots by the decay of leaves or portions of leaves. We never allow a knife to be used either for cutting of greens or rootlets, as the latter are necessary to nourish the bulbs in heap, nor do we object to a portion of earth adhering to the fibrous roots; but when the heaps are opened and the roots prepared and trimmed in readiness for the cutter the earth and trimmings should be preserved as manure, for when artificial manures are used as well as yard dung for the crop there will always be found a portion of the manure attached to the small roots, and quite enough to pay for taking care of, but in case of field-feeding of sheep it should be spread on the land; if at the homestead for bullock feeding it should be added to the manure heap. At the time of lifting the crop we prefer to carry to the heap or store the roots as fast as they are taken out of the ground, and we never think of leaving any pulled roots in the field at night time, because we often get night frosts, which would be of no consequence if the bulbs were not pulled, but when they are left and exposed at night they are sure to suffer more or less damage, for that part of the bulb which grows under the surface is very tender and susceptible of injury by frost. In making store heaps for mangolds it is not of so much consequence as to the size, or width, and height of the heap, but it is more a matter of convenience or economy. The heap may therefore be made 10 or 12 feet wide at bottom, carried up to a point at top, and covered with short straw, rough border grass cut from the fields or plantations, stubble, or seaweed before thatching, the latter being the best of all coverings which we know, requiring no thatch in addition, and less earth as a final covering. We also recommend that at every 2 yards a small drain-pipe should be set on end at the top of the heap, which will allow any undue accumulation of heat to escape. The position of the heap should be a southern aspect, near to a hedge or other shelter. After the bulbs are carted away the greens left on the land may be ploughed-in for manure if the ground is to be sown with wheat immediately after, but when held over the winter for barley or oats we have often folded the sheep on the greens, upon which food they will do very well if they have change of pasture food as well.

We now come to carrots. These require more nicety in the taking-up, for they cannot be pulled by hand like mangolds or turnips. We use for this purpose a steel fork introduced at the side of the plants, press down with one hand, and pull the greens perpendicularly with the other, and only in this way can the roots be lifted without breaking or bruising. We advocate the early raising of the crop whilst the greens are full of growth, as they are a very valuable food for all kinds of stock, especially milch cows and pigs. The greens should be cut off so as not to injure the heart bud, and when making the store heap it should not be more than about 4 or 5 feet wide at bottom, and carried up to a point. Carrots do not require so much covering in heap as mangolds, although the heap may be covered in the same way. When required for sheep feeding in the open fields, as they often are upon the sand soils, they only require to be pitted in the field in the same manner as Swedish turnips. It is, however, of more

necessity because rabbits, hares, &c., injure the crop in a most extraordinary manner if left in the land where they grew.

The preservation of Swedish turnips is of the utmost consequence, and if they are required for feeding bullocks at the home-stead they may be treated in the act of storing the same as mangolds, taking care, however, not to cut off the neck or stem, but to twist off the greens as recommended for mangolds. When the crop is required for feeding sheep in the open field, particularly when the seed has been early sown, it is best to take up the bulbs and cast them into heaps, which may be covered with earth if required to stand the winter, otherwise we often take them up and prepare them ready for the cutter about two or three weeks in advance of the sheep. We have found that early-sown Swedes will often rot in the land if not heaped and covered, or pitted as it is termed, besides which adjoining farms may be game preserves; in which case if the roots are left in the land, although they may not rot, yet the injury by hares and rabbits will be great. When they are pitted properly, or a deep double furrow ploughed to bury them in and earthed over in good season, they are safe against all casualties; besides which, if we wish to obtain the full feeding value of the roots they should be taken up at an early period, especially if the leaves are mildeyed, otherwise they lose their feeding properties. The hybrid turnips and the common varieties suffer in a much greater proportion than Swedes from the causes above stated if they are early sown; but as it is usual to sow these sorts of turnips later they will generally retain their feeding value until required for use, and are seldom stored, for they are generally consumed before the frost interferes with the feeding process.

WORK ON THE HOME FARM.

Horse Labour is now at its utmost value, as all the most important tillage work of the year is now in progress, amongst which is the continuation of autumn tillage of the stubbles upon land intended for root crops next year, or for barley in the spring; also the sowing of rye, winter vetches, and trifolium if not already sown, or if failed in plant, must be sown again, the sooner the better, with an increased quantity of seed, and not less than 25 lbs. per acre. The rye and winter vetches should not have the land worked too fine, as when left a little cloddy it takes the frost of winter better, and the plants are somewhat sheltered; but in land where small ridges prevail the land furrows should be struck out with the double mould-board plough and well water-furrowed. Some of the horses may be employed in drawing manure from the home-farm yard or from mixen and laying out upon the clover leas in readiness for ploughing for wheat; also the guano or artificial manures required for wheat should be obtained and brought from town or station in order that the guano may be properly broken ready for sowing. We, however, prefer to have it broken at the factory with their powerful bone mill, as the farm labourers scarcely ever break it fine enough, even when they have proper implements for doing it. Damp ashes should also be provided for mixing with guano for sowing to prevent its flying before the wind, as we always recommend guano to be sown broadcast in preference to drilling with corn; we also recommend that artificial manures should be sown on the fallows after peas, turnips, &c., so that the dung may be laid and spread upon the clover lea. We find that 3 cwt. per acre of the best Peruvian guano is a sufficient dressing for wheat upon well-tilled land, and will produce a full bulk of straw. The odd horse or horses will be employed in carting couch and stubble from the fields undergoing autumn fallowing, also in carting the daily supply of green fodder for soiling horses, cows, &c., there being still a cutting of clover upon most home farms either on the land coming in for wheat or upon the land seeded to clover after the Lent corn, there being an unusual growth of latter grass this year—in fact, we have now grass fit for cutting for soiling cattle in the meadows, where they have not been fed since hay time, and we hesitated whether to feed it or cut up for soiling, but decided upon the latter. Hedge trimmings should also be carted to heap and burned, so as to be out of the way at ploughing time.

Hand Labour consists of winnowing corn both of oats and barley, but wheat may probably improve in condition by remaining awhile in stack as the harvest has been very stormy; men will also be employed spreading dung on the clover leas, filling dung cart, mixing guano and ashes, trimming out the ditches and examining the outfalls of draining, stacking and thatching the ricks of barley and oat straw for fodder. The cattle man must pay attention to the weather, so that if night frosts commence the cattle should lie in a high and dry pasture at night, or else in a well-littered cattle yard and sheds; and if feeding for the butcher they should have an allowance of oilcake mixed with the chaff and cavings from the barley and oat ricks; the young steers also should be cared for at night and not allowed to be in meadows below the fog level, and need also receive some decorticated cotton cake with chaff in their night lair. Shepherds will now be engaged with the management required for the different flocks. The breeding Down ewes must have a constant change, but the keep should be bare. The store tegs should have better food with a change to turnips behind the fattening sheep, the best clover seeds being fed

during the day by the sheep intended for the butcher, and at night a fold of turnips, rape, or cabbage, with an allowance of cotton cake and hay or straw chaff. If only hay is allowed and no cake the turnips should be prepared by women and passed through Gardener's cutter for trough-feeding.

THE POULTRY CLUB.

A COMMITTEE MEETING of the Poultry Club was held on the 25th ult. at the Charing Cross Hotel. Present, R. A. Boissier, T. C. Burnell, R. E. Horsfall, S. Matthew, and O. E. Crasswell (Hon. Secretary). The following Members were elected:—Charles Atkinson, Highborn, Armley, Leeds; H. Evans Broad, The Plantations, Warrington, Surrey; Mrs. Cross, Appleby Vicarage, Brigg; John B. Compton, Hallyburton, Coupar Angus, N.B.; Rev. Gonold S. Davies, Charterhouse, Godalming; Mrs. Hall, Dancer's Hill House, Barnet; Captain John N. Preston, Flasby Hall, Gargrave, Leeds; J. R. Rodbard, Aldwick Court, Wroughton, Somerset; Miss Agnes Sharp, Culverden Hill, Tunbridge Wells; and Rev. J. P. Wright, Newborough Vicarage, Derby; and the following Associate Members:—Rev. E. Bartrum, Berkhamstead, Herts; W. Biddle, 27, Meriden Street, Birmingham; William Johnson, jun., Vostersberg, Cork; G. H. Lawrence, Morant's Court, Sevenoaks; P. H. Le Sueur, Grandvale, Jersey; Edward Morgan, 68, High Street, Hastings; J. S. Playfoot, Dorking; Mrs. Troughton, Garthwyd Hall, Montgomeryshire; and Mrs. M. A. Wilson, Westal, Cheltenham.

Representations from various individuals against a person who advertised eggs were taken into consideration. Apparently he advertised his own at a high price, but sent inferior ones direct from another advertiser of cheap eggs to purchasers. The Secretary was instructed to ask for an explanation.

A letter from Mr. Norwood of Salisbury was read to the Meeting, stating that in his opinion the trimming of the crests of White-crested Black Polands should be recognised, as is the trimming and dubbing of Spanish and Game; and that as with them the question as to whether the trimming was overdone or not should be left to the decision of the judge. The answer given was as follows:—The Committee decide that they cannot give their approval to the trimming of Black Polands' crests as suggested. Wishing as much as possible to discourage trimming in every form, they would suggest to judges that they should not give too much weight to a small amount of black in a white crest, and are content to leave the matter, as heretofore, to their decision.

The following resolution was passed:—That the subscriptions of Members and Associate Members who shall join the Club after the 1st of November, 1878, shall be held to cover all subscriptions due up to the end of 1879.

As at the time of the Meeting it seemed certain that the Oxford Show would fall through, the following resolution was passed, and the Secretary was instructed to forward it to the Oxford Committee:—That the Committee of the Poultry Club hear with regret of the discontinuance of the Oxford Poultry Show, which has always been characterised by good management and prompt settlement; and that the thanks of the Committee of the Poultry Club, on behalf of exhibitors, be tendered to the managers of the late Shows for their gratuitous services during the last six years.

The "Rules for the Management of Poultry Shows," published not long since, were then discussed, and in their present form rescinded, it being decided that many of them might more appropriately be incorporated with certain alterations in the general rules of the Club. The following six rules were agreed upon to be necessarily inserted in the schedule of all shows held under the patronage of the Club:—1. Any exhibitor who has been disqualified by the Committee of the Poultry Club for fraudulent practices is ineligible to compete at this show. 2. No person is allowed to exhibit borrowed birds. 3. Exhibitors and their servants will not be allowed to pen or unpen their birds. 4. No bird may be removed from the show before the close of the same, save on account of illness and with the secretary's consent. 5. It will be open to anyone to lodge a protest for fraudulent practices against an exhibitor on paying £1 deposit, and such further sum as shall be necessary to defray the expenses, the deposit to be forfeited should the protest be considered frivolous by the Committee. Should the protest be sustained the deposit will be returned and the expenses paid by the Poultry Club. 6. An exhibitor who shall be disqualified for fraudulent practices shall forfeit all or any prizes or cups that may have been awarded to him or her at this show, in addition to entry fees.

HIGH-COLOURED CANARIES.

RESPECTING high-coloured Canaries "A. K. C." asks the following questions, to which we have much pleasure in replying.

1. Do canary and hempseed given occasionally to the birds destroy the effect of the cayenne pepper? If canary and hempseed be given to Canaries at the time they are moulting the birds will not attain the height of colour as when they are entirely moulted upon the cayenne diet; but if the birds have clear-

moulted, then the seed will not destroy the colour produced with cayenne.

2. To preserve the high colour of the birds is it necessary to continue the diet of cayenne and egg each time that they moult? Each time the birds moult it is necessary that the cayenne diet be adopted, or the birds will moult of a pale hue.

3. Is the plumage of the young birds any brighter for the parents having been fed on cayenne pepper? No. However much pepper the parent birds may have partaken of, it has no effect whatever upon the young unless the pepper is supplied to the old birds at the time the young are being brought up in the nests.

4. After being fed for eight weeks on cayenne pepper ought the high colour of the Canary to have fully commenced, and can it then return to its ordinary food of canary seed, groundsel, &c.? In reply to the first portion of the question, much depends upon what ages the birds are when the cayenne diet is first given. If the birds have moulted cayenne pepper will have no effect; but if they have not moulted, and you commence with the pepper at the proper age, the effect of it will be seen in less than half the time named.

We may also further remark: When commencing with the cayenne food, consisting of pepper, biscuit, and egg, do not let the ages of your birds exceed seven weeks. By the time the birds attain the ages of sixteen or seventeen weeks they should throw off the whole of their feathers except the wings and tails, which do not cast until the following year. If during the moulting period the birds are taken off the cayenne diet and supplied with seed and green food the effect of the stimulating diet will be at once checked, and the bird's plumage will become patchy in colour. During the pepper-moulting seed and green food will counteract the power of the cayenne. The more pepper birds partake of the higher they will become in colour during moulting. The purer the pepper and the higher the colour the greater the effect. More care should be exercised as regards cleanliness than when birds are moulted upon seed. With a pepper diet they not only increase the soiling of the cage bottoms and perches, but the birds become clog-footed, and their wings and tails likewise get soiled, unless the birds have free access to a shallow bath to wash and splash about in.—GEO. J. BARNESBY.

VARIETIES.

THE annual Dairy Show of the British Dairy Farmers' Association opens this day (Thursday) at the Agricultural Hall, London, and continues for four days, £1500 being offered in prizes for cows, heifers, and bulls. The entries in these classes number 232, all breeds being represented. Goats exceed the number of entries of last year. Cheese and butter classes all well filled, every known variety being on view. American Cheddars weighing more than half a ton. Poultry and Pigeons: two thousand pens, being three times the number of previous years. Butter-making and cheese-making will be carried on each day in the Show by country dairymaids. Models, plans, and drawings of dairy homesteads: eleven competitors. Dairy utensils, fittings, and vehicles in competition for prizes and medals. The general stalls are decidedly above the average. Amongst the principal exhibitors are Her Majesty the Queen, the Baroness Burdett Coutts, Lady Gwydyr, the Hon. Mrs. Baillie Hamilton, the Earl of Stamford and Warrington, the Earl of Rosslyn, Lord Chesham, the Hon. H. Brougham, the Hon. and Rev. F. Dutton; the Revs. H. R. Peel, R. Watson, and G. Gilbert; John Walters, Esq., M.P.; Jas. Colman, Esq., M.P.; Capt. Norman Hill, George Simpson, Esq.; R. Myddleton Biddulph, Esq.; Drs. Snell, Angier, and Crisp; St. John Ackers, Esq.; R. Stratton, Esq.; H. Lingwood, Esq.; J. N. Matthews, Esq.; George F. Burnell, Esq.; R. R. Fowler, Esq., &c. The Show opens at 10 A.M. and closes at 10 P.M. and is worthy of extensive patronage.

—HON. AND REV. F. G. DUTTON writes:—"Will you let me say that I have made it a condition of collecting for the £10 cup for Black Reds at Oxford that skinned birds shall be ineligible?"

—AT the late meeting of the Royal South Bucks Agricultural Association held at Datchet, the Prince Consort's silver cup of the value of 20 guineas, given by the Queen for root crops, was awarded to Mr. G. Botham, Wrexham; Mr. Ives, Langley, taking the second prize—a piece of plate of the value of 10 guineas, presented by Mr. N. G. Lambert, M.P. The members of the Society dined in the evening at the Royal Hotel, Slough.

—A WELL-ORDERED FARM, well-chosen stock, comfortable buildings, a neatly kept garden, roadway or entrance-way; gates well hung, fences well kept, shade trees, ornamental shrubbery, paint without and whitewash within—all these are worth more to a farmer in money value than a few hundred dollars carefully scraped together and jealously hoarded and loaned to needy neighbours at interest. No investment pays so well as money judiciously spent in farm improvements. Draining wet land will pay 50 to 100 per cent. on its cost every year; good stock will pay equally well; good roads will return their cost every year; a gate will save its cost in a short time; a good fence may save its whole cost in one night; a well-kept garden, a neat lawn, orchard and

shade trees, which need not cost \$100, have added ten times that amount to the value of a farm, and the comfort and self-respect gained through the outlay for these and from their possession are worth more than the cost.—(New York Times.)

QUEEN BEE LAYING UNPRODUCTIVE EGGS.

A CURIOUS phenomenon has come under our notice here, which, so far as I am aware, has not been observed before among the curiosities of apian science. A young queen hatched this summer after a swarm became the parent of a large hive full of bees, both before removal to the vicinity of Heather on the Mendips and during the stay of the hive there—a period of six weeks. About the 16th of August a bar-frame was taken out of the centre of the hive for examination, and was found to be full of brood of all ages. Early in September, three or four weeks later, no brood whatever was found in the hive, but a quantity of eggs in four or five combs. On Thursday, September 19th, the hive was again overhauled, but none of the eggs had been hatched; and finally on examination yesterday, October 1st, the same state of things was found continuing, with this difference that eggs were seen in only two of the combs. Now how is this to be accounted for? On the principle of parthenogenesis these eggs ought to have produced drones—that is, supposing the July-hatched queen to have been lost by accident and a younger queen to have been reared since the 16th of August, after the general destruction of drones throughout the apiary; but that the queen should continue to lay eggs which produce no life at all is what I consider a very unusual phenomenon. I have supposed it possible that a young queen was born in the month of August to supply the place of the July-hatched mother bee, but there is no evidence whatever of any such queen having been reared as would have existed in the shape of royal cells among the combs. Not one such, however, was seen. If there was no loss of the July queen the phenomenon is still more curious, for then we have to account for the hitherto prolific mother ceasing to rear brood while still laying quantities of eggs apparently devoid of all vitality. It must be added that continuous feeding has been going on in this hive for nearly three weeks, and the hive is very populous and as active and content (pollen-gathering too) as any other stock of bees in the apiary. This feeding was designed to supply the place of a quantity of honey of which the stock was plundered, some of which was extracted by an extemporised slinger, with a view to the return of the emptied combs.—B. & W.

ARTIFICIAL COMB FOUNDATIONS.

AFTER fifteen years' experience and manufacture of the above most useful apian appliance I can fully endorse all your excellent contributor "B. & W." says in its favour. The perfect straightness of comb it ensures is most valuable to the storifier, causing the various sections of his every colony to blend together as intimately as if they were an inseparable whole. Shortly after its introduction a keen Ayrshire apian carried here a young swarm for the Italian fertilisation of its queen. So neatly and securely had he attached his guide, after the manner described by me in "Our Letter Box" last week, that it bore the weight and heat of the bees themselves and the jolts and jars of a considerable railway journey and hand carriage several miles to and from the respective stations, arriving in the most perfect condition.—A RENFREWSHIRE BEE-KEEPER.

EXCESSIVE SWARMING.

I HAD a hive of bees (in one of Neighbour's improved cottage hives), which swarmed in June of this year. I put them into a hive, also Neighbour's, but they returned to the parent hive in the afternoon of the same day. They swarmed again next day and were put into the rejected hive, but returned to the old one in about an hour's time. Two or three days afterwards two swarms came out, one very large, the other small, containing perhaps about a quart of bees. The small one was put into a straw skep, the other into the Neighbour; both stopped this time and began work at once. The large swarm is now so heavy that I cannot lift it; the small hive is half full of comb, the bees have increased to about twice the quantity, they have taken 12 lbs. of sugar and are still storing it away. So far, all well. Now for the parent hive. After the swarms were gone I began to think of getting a little honey, so I placed a large super, covering all three holes on the top. The bees constructed three combs and filled them with honey, but bad weather coming on they could not get out much, so they carried it down below. A fortnight ago I examined it. I could not lift the hive, and of course there was nothing in the super, but I congratulated myself that I should have two good hives to super and the skep to breed from next year if I can keep it. Judge, then, my astonishment this morning, September 30th, when I found not a bee in the old hive and half the honey gone. The strong swarm which stands close to it seems heavier, and I suspect the honey is there. But where are the

bees? Why did they leave their hive full of honey?—N. T., *Cheshire*.

[The letter of your correspondent presents to view very unusual and remarkable occurrences difficult to explain. The old hive swarmed twice, the swarms returned both times after they were hived. The probability is great that the queen was too old to go with the swarm and was lost on making the second attempt. Young queens were fully ripe and ready to take her place, and, as "N. T." puts it, "two or three days afterwards two swarms came out, one very large, the other very small, perhaps only about a quart of bees. Both were hived, commenced to work at once." These swarms were headed, doubtless, by young princesses, and were virtually casts, or second and third swarms. Why the bees left the parent hive at the end of the season we cannot explain in the absence of sight.—A. P.]

INCOME OF STEWARTON HIVE, 1878.

I STARTED keeping bees the year before last, and erected a rough house to hold them. Buying them and sugar to keep them alive afterwards took a good deal out of my pocket and put nothing into it. This I felt, as I am a cottager with a numerous family to support, and living in a village near a railway station, the smoke of the engines and noise of the trains, away from heather or good keep, made me almost think I had made a mistake in going in for bees at all, so that in June I parted with one of my straw skeps, having two left. I started with three at first, which gave me neither swarms nor honey last year, and were often at death's door and had to be fed in summer, and many a thought it gave me how I could work them to most profit this year and get some money back out of them. In my difficulty I made application to a gentleman who I heard knew a good deal about bees, and who resides in our neighbourhood and writes in your Journal, "A RENFREWSHIRE BEE-KEEPER." This gentleman advised me to drive the Stewarton hive, and was so kind as to make me a present of a 9-inch body box, sheeted with wax sheet from his machines, which kept me going all summer, also good sound practical advice as to the proper management of the Stewarton system. I have also several of Mr. Allan's boxes direct from Stewarton, and wondered how he could make such strong dovetailed boxes with eight moveable bar slides, pegs, and sliding doors, all for 6s., so little more than a common straw skep. I hived my first prime swarm in a 9-inch box on the 17th of June, and lost much time watching for the other, which did not come off till late (12th July), and hived it in another 9-inch body, joining it to the first the same night without loss of bees. Gave first one honey box, then another on top of it, and last a third at the top of all to hold bees and keep them from swarming, as I had been instructed, and they wrought out in the three entrances splendidly. The lowest honey box (over 20 lbs. of honey) was a beauty, and I won the first prize with it at our flower show. My income from this hive was:—First box sold for £2s. 2s.; prize money for it, 10s.; second box shallow, sold for £1; third box, 20 lbs. sold at 1s. 6d., £1 10s. Total, £5 2s. Had I parted with my two top swarms for 20s. each, less 6s. for two skeps at 3s. each, would have brought me in 34s.; but I see now I took good advice to keep them, as they made over £5, and I have my capital hive left for next year. Hived second swarms in Stewartons as well as drawn out bees the twenty-fourth day after swarming, and was very thankful to get rid of my straw skeps, which bred no end of moths and vermin in my bee house. My wife took one of them into the nearest town, but nobody would buy it, and we had to run it. I found the gentry round about our neighbourhood willing to give 6d. per pound more for top box comb than for run honey, and mean to run as little as can be helped next year.—J. R.

OUR LETTER BOX.

CHICKENS DYING WHEN A FORTNIGHT OLD (*Two-years Subscriber*).—You have not told us whether your birds all roost in the same house or have separate houses. We expect they are together, and if so with a straw bed we should look to that for the disease. Fowls and Ducks never do well if they roost with Geese, and these latter also object to promiscuous lodging. Fowls will be healthy where they have a straw bed. It is always offensive, and it never harbours vermin let it be ever so dry; but where it is also used by Ducks it is filthy and leads to disease. In all particulars Ducks and Geese are unfit to roost with fowls, and will always cause disease. Where are the hens with their chickens in the early days of their existence? If put out under rips in the stack yard they should be the pictures of health. They do not require a shed except in winter and early spring. Do they get clean water? Is it running or stagnant? Has any part of their house a boarded floor? If it has, remove it. The gaping would seem to indicate they were suffering from that. As that disease affects only chickens we advise you to give them when attacked a pill of camphor the size of a pea, and let them have no water to drink that is not strongly impregnated with camphor. We advise you to separate a good portion of your poultry house and appropriate it to the fowls exclusively, but as we imagine you have grapes and vermin among your poultry every part of your house must be thoroughly scrubbed with a birch broom and afterwards lime-whited. The floor should be scraped till at least an inch has been taken from the surface. Every vestige of straw should be removed. The floor should be perfectly dry. Let your food be ground oats or barley meal slaked with water morning and evening; maize, barley, scraps of bread or meat at mid-day. If you can give the whole place to the fowls so much the better. Geese and Ducks will always find roosting places, even

in an open yard. We are strongly disposed to believe your Ducks and Geese die of cramp, induced by the filthy straw on which they roost. It is in consequence of their habits they are allowed to choose their lodgings. In many places the Geese roost on the water, and if left at liberty always resort there at the approach of night. Give your ducklings oat or barley meal put in a shallow vessel. The bottom of this vessel should be covered with a sod of growing grass cut to its shape. Put on this some fine gravel, then the meal. Put sufficient water to cover the whole. They will eat greedily of it, and it soon restores them. The height of the vessel must allow the ducklings to feed at it.

PARAKEET'S FEET SWOLLEN (*E. W.*).—Let the water from the swellings escape by piercing them with a stout needle. Feed the bird on fruit.

SWOLLEN CROP (*L. I. B.*).—A dessert-spoonful of gin will probably remove it.

CLEANING CANARY SEED (*M. Hamilton*).—We are not aware that there is any machine specially used for cleaning canary seed.

STEWARTON HIVE (*C. R. E.*).—"A CROYDON BEE-KEEPER" says you can obtain the hive from Mr. Holland, hive maker, Harrison Rise, Croydon, Surrey.

STEWARTON HIVE.—We are informed that we wrongly named the maker. He is Mr. James Allan, cabinetmaker, Stewarton, N.B. The price is 12s.

HOUSEHOLD BREAD (*Uae*).—To 10 lbs. of flour in a kneading-trough put a small handful of salt. Stir into this about two quarts of water, more or less, as some flour absorbs more water than others. For very white bread, made with superfine flour, the dough should be softer than for seconds or brown bread. In summer the water may be lukewarm; in winter, considerably warmer, but never hot enough to kill the yeast. After the water is mixed with the flour add a cupful of good yeast, then knead the bread, and leave it to rise in a warm place, covered with a cloth. If all goes well it will rise sufficiently in the course of an hour or an hour and a half. Then divide it into rolls, loaves, or tin-breads, as wanted, and bake. For a 3-lb. loaf take 3½ lbs. of dough; for a 4-lb. loaf 4½ lbs. 11 ozs.; for a 6-lb. loaf 6½ lbs.; and for an 8-lb. loaf, 9 lbs. of dough.—(*Cassell's Dictionary of Cookery*.)

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.					
	Baromet. at 33° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass	
1878.										
Oct.										
We. 2	Inches. 30.224	deg. 54.7	deg. 46.9	W.	deg. 61.9	deg. 59.5	deg. 58.5	deg. 58.5	deg. 58.5	In. —
Th. 3	30.224	54.7	53.6	W.	54.0	66.3	45.2	101.2	42.2	—
Fri. 4	30.174	53.5	52.1	S.W.	54.0	65.5	45.1	98.0	41.3	—
Sat. 5	30.148	53.3	52.7	N.	54.0	73.3	46.8	100.4	43.9	—
Sun. 6	29.831	62.8	58.6	S.	55.0	70.0	52.4	83.4	49.2	0.090
Mo. 7	29.591	62.9	58.4	S.W.	56.2	68.0	58.2	108.9	53.7	0.010
Tu. 8	29.395	59.8	56.8	S.S.E.	56.8	67.0	57.0	106.8	52.3	—
Means	29.956	56.4	54.0		55.0	67.3	49.2	98.9	45.8	0.100

REMARKS.

- 2nd.—Fair bright morning, cloudy afternoon, fair evening.
3rd.—Very foggy morning, cleared by 9 A.M., bright day; cloudy evening.
4th.—Foggy in early morning, afterwards fine warm day; very clear fine evening; starlight night.
5th.—Bright and fine in early morning, foggy from 7 A.M. till 10 A.M., rest of the day fine and hot; quite a summer's day.
6th.—Dull close morning, rather gusty in afternoon, still dull but occasionally a gleam of sunshine; rain from 5 P.M. till 7.30, fine afterwards.
7th.—Fine bright day, high wind, not quite so warm as last few days.
8th.—Wet in early morning, bright and sunny after 9 A.M., windy; clear bright evening.

On the whole a week of fine fresh weather, and some days very warm. All the means of thermometric readings are above those of last week. The mean of the barometer is, however, slightly lower, owing to the low readings at the end of the week.—G. J. SIMONS.

COVENT GARDEN MARKET.—OCTOBER 9.

THERE is a slight improvement in the demand for best Apples, although business is quiet, but inferior sorts hang on our market. A better supply of Pears has reached us, and prices are lower. Vegetables are plentiful.

FRUIT.				VEGETABLES.			
	s.	d.	s. d.		s.	d.	s. d.
Apples.....	1 sieve	2	0 to 4	Melons.....	each	1	0 to 4
Apricots.....	bushel	0	0 0	Nectarines....	dozen	0	0 0
Chestnuts.....	dozen	0	0 0	Oranges.....	100	3	0 16
Figs.....	dozen	0	0 0	Peaches.....	dozen	8	0 12
Fibers.....	1 lb.	0	8 1	Pears, kitchen..	dozen	0	0 0
Cobs.....	1 lb.	0	8 1	dessert.....	dozen	2	0 6
Grapes, hothouse	1 lb.	0	9 6	Pine Apples....	1 lb.	3	0 6
Lemons.....	100	6	0 18	Walnuts.....	bushel	5	0 8
FRUIT.				VEGETABLES.			
	s.	d.	s. d.		s.	d.	s. d.
Artichokes.....	dozen	2	0 to 4	Mushrooms....	pottle	1	6 to 2
Asparagus.....	bundle	0	0 0	Mustard & Cress	punnet	0	2 4
Beans, Kidney..	1 lb.	0	3 0	Onions.....	bushel	2	6 3
Beet, Red.....	dozen	1	6 3	pickling.....	quart	0	4 0
Broccoli.....	bundle	0	9 1	Parsley.....	doz. bunches	2	0 0
Brussels Sprouts	1 sieve	3	0 4	Parsnips.....	dozen	0	0 6
Cabbage.....	dozen	1	0 2	Peas.....	quart	0	1 0
Carrots.....	bunch	0	4 0	Potatoes.....	bushel	3	6 7
Capsicums.....	100	1	6 2	Kidney.....	bushel	5	0 7
Cauliflowers....	dozen	3	0 6	Radishes.....	doz. bunches	1	0 1
Celery.....	bundle	1	6 2	Rhubarb.....	bundle	0	0 0
Coleworts.....	doz. bunches	2	0 4	Salsify.....	bundle	0	9 1
Cucumbers.....	each	0	4 1	Scorzonera....	bundle	1	0 0
Endive.....	bushel	0	0 0	Seakale.....	basket	0	0 0
Fennel.....	bunch	0	3 0	Shallots.....	1 lb.	0	3 0
Garlic.....	1 lb.	0	6 0	Spinach.....	bushel	2	6 4
Herbs.....	bunch	0	2 0	Turnips.....	bunch	0	6 0
Leeks.....	bunch	0	2 4	Veg. Marrows..	each	0	2 4

WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 17—23, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.	Days.	m.	s.	
17	TH		58.8	40.7	49.8	6	29	5	2	8	18	1	1	21	14	36	290
18	F	Sale of Orchids at Liverpool.	60.4	40.7	50.6	6	31	5	0	9	30	1	40	22	14	47	291
19	S		59.4	41.7	50.5	6	33	4	57	10	51	2	10	23	14	58	292
20	SUN	18 SUNDAY AFTER TRINITY.	59.0	39.2	49.1	6	34	4	55	morn.		2	32	24	15	9	293
21	M		58.4	39.5	49.0	6	36	4	53	0	15	2	51	25	15	18	294
22	TU		58.9	42.4	50.6	6	38	4	51	1	41	3	7	26	15	27	295
23	W	Robert Fish died, 1873.	58.2	39.8	49.0	6	40	4	49	3	7	3	32	27	15	36	296

From observations taken near London during forty-three years, the average day temperature of the week is 59.0°; and its night temperature 40.6°.

OUR STRAWBERRY BED:

INCLUDING PRACTICAL HINTS BY THE LATE HENRY DOUBLEDAY.

WITHOUT the support of such an authority as the late Henry Doubleday I should hardly have ventured to give our experience upon Strawberry rearing to the public.

About fifteen years ago we became possessed of an old walled-in garden, where Apple trees flourished and Gooseberry trees were covered with moss, a patch of Raspberry canes bore scarce and stunted fruits, and walks and plots, including a Strawberry bed, could hardly be distinguished from the wilderness around of Sow-thistles, Rushes, Groundsel, Chickweed, Nightshade, Bindweed, and a host of other weeds which met the eye on every side. To our great surprise, in spite of the weeds, we found one or two very tolerable dishes of old white Strawberries, which, though small, were exceedingly well flavoured. We had brought with us an experienced gardener, who shook his head wisely, and told us to wait till next season and he would show us what a Strawberry bed should be. So we waited. The weeds and Strawberries were dug up, barrowfuls of manure and turf were liberally applied to the plot, which was carefully tilled, and the Strawberry plants were set in neat rows about 2 feet apart. The season of blossoming came, and Patrick exulted over the quantity of white flowers; but for seven years from that time we had not a single dish of Strawberries fit to place upon our dinner-table. A scarce supply of shrivelled and wizened fruit perfectly hard at the apex rewarded all our care. Numberless plans were adopted, and runners of British Queen from a friend's garden were tried in vain, and we became thoroughly disgusted. At last C— said, "Why not write to your kind old friend Mr. Doubleday, and ask him for information?" The happy thought was adopted, and by return of post came a letter offering if we would throw out all our old Strawberries to send twelve different kinds of runners for trial in our garden, an offer which I need hardly say was thankfully accepted. With the Strawberry runners came the following directions and account of his own management:—"I grow all my Strawberries in beds with paths between them; each bed contains thirty-one plants 2 feet apart in the rows, and the rows 2 feet apart also. I have thirty beds, fifteen of which are replanted every year. The runners are potted, and as soon as they are well rooted they are planted out. I have just finished five beds (August 1st). A limestone formation is not very favourable to Strawberries, as they prefer a rich heavy loam; but I think you ought to have plenty of good fruit. From what you say I think the surface roots are injured in some way. In forming new beds some good rotten manure should be dug in, and the soil should be well broken to pieces. A week or so afterwards, if the plants are ready to put out, the lines for the rows should be marked out and the ground be trodden down till it is quite firm and solid; the plants should then be put in, and the soil pressed or trodden down till quite firm, not placing the crown of the plants too deeply

in the earth; they should then have a good soaking of water. When the surface of the bed is dry enough it should be made level with a Dutch hoe and rake, but the soil ought not to be moved more than an inch deep, the runners will then only want watering when the weather is dry. All runners which they send out should be cut off and the bed kept clean of weeds with a Dutch hoe. The ground must never be forked or dug after the plants are put in; this is a very important point. Digging between the rows, which is often done in the spring by gardeners who ought to know better, destroys all the surface roots which support the fruit, and of course, though the plants may blossom abundantly, they produce little or no fruit. A good coating of rich manure laid on the surface of the beds in March is very beneficial to the plants. They should only be left two years; in fact when properly managed they might almost be treated as annuals. When watering in dry weather I give each plant two quarts of water." Half of the Strawberry runners sent by our generous friend (*i.e.*, six of each kind) we planted when well rooted in our old Strawberry plot, giving a small bed to each variety. The others were tried in a border from which Potatoes had first been dug, merely pulverising and then rolling the ground according to Mr. Doubleday's directions, and we waited anxiously for the result. On the old bed we had a few miserable berries "wizened" as in old times. The new border produced upon each plant three or four healthy and enormous Strawberries. For another season we left both beds untouched, merely weeding by hand and giving in autumn a good surface-dressing of decayed leaves, and in spring of manure to the young plants. On the border we had a very fine and abundant crop, on the beds not a berry worth gathering; so a number of runners were rooted, a spot of ground lately occupied by Potatoes chosen, and from that time we have never wanted Strawberries either for preserving or for table use. An accident discovered the secret of the old Strawberry plot; the soil, already porous and light, had been rendered so loose by the quantity of turf which had been dug into it by our "experienced" gardener that it would not bind round the young plants, and of course would not retain sufficient moisture to swell the fruit. And from experience we have little doubt that in any limestone garden turf is poison to the ground for Strawberry plants.

Mr. Doubleday continued to take a great interest in our experiments, and from time to time we received valuable hints. With any very valuable new Strawberry he recommended plunging small pots filled with sandy soil in the bed and pegging down the earliest runners into these without removing them from the parent plant till well rooted. The top of each runner should be nipped off, as it is likely to produce a second young plant, and to weaken the first and best offset. This plan is of course impracticable in a crowded bed, and if the pots containing runners of good kinds are plunged in large boxes with soot or lime beneath them and left for three or four weeks in some shaded spot of the garden they will form excellent plants, of which the balls can be turned out without any injury to their mass of roots when the bed is ready for them.

A theory having been started by a gentleman living near Epping of fruitful and unfruitful runners, we asked Mr. Doubleday's opinion of the subject. He answered, "I give away bushels of fruit every year [he was too modest to add, "and frequently obtain prizes"], and I can only say in twenty-nine beds averaging about twenty-five plants in each there is not a barren Strawberry, nor do I believe such a thing exists, except from bad cultivation. I always plant the earliest and strongest runners, and treat my beds almost as annuals, renewing them frequently with runners." This system, of course, produces enormous fruit, but we have had fine healthy average Strawberries weighing about two dozen to the pound from beds four or five years in cultivation, finding it sufficient to plant a young strong runner in the place of an old one here and there through the bed; and *Crimson Queen*, a most capricious Strawberry, was far more productive the third year than at first. Birds and frogs were our greatest enemies: against the former Mr. Doubleday's plan of enclosing each bed with boarding 14 inches high and netting on top is an excellent guard; but in the case of our walled bed it could not be accomplished, and before the fruit was ripe we constantly found a plethoric amphibian monarch of all he surveyed guarding a heap of gathered and half-decayed Strawberries which he had evidently procured for a *bonne bouche*. I know the fact of Strawberries being devoured by frogs is doubted by many writers, but the same thing occurred in a friend's plot of ground; frogs and heaps of fruit were found by the gardener, who was at his wife's end to discover the robber, "as there was not a rat in the garden."

With regard to watering our plants our kind old friend gave us another hint. "I never give my Strawberries any water if I can possibly avoid it till the fruit is setting; then I make the gardener give each plant two quarts. Of course a dry or wet season must prove an amateur's guide in this particular—i.e., whether this watering is to be repeated; but less than two quarts at a time will not saturate the ground sufficiently to be of any real benefit to the plants."

Of the Strawberry runners sent by Mr. Doubleday we found *Royalty*, Sir Joseph Paxton, President, Cockcomb, and Amateur succeeded admirably, and Cuthill's Prince of Wales bore abundantly its beautifully coloured fruit, of which such quantities are annually used by Gunter for preserves for the Royal household. *Waltham Seedling* failed on an exposed bed, and so did *Crimson Queen* till removed to a shaded border; but except for show, from its brilliant colour and size, the latter is hardly worth growing for household purposes, as it is a decidedly shy bearer.

I must now conclude this little history of a Strawberry bed. The friend to whose never-failing kindness we were indebted for success has passed away from us; but if the amount of varied information which his correspondents received from him could be collected and arranged a volume of real practical value might be given to the public, with an assurance that whether the subjects treated of ranged from the markings on a butterfly's wing to the growth of a simple flower, they would stand the tests of deep study and truth.

[The above notes are sent to us by Mrs. Battersby.—EDS.]

CULTURE OF AQUATIC PLANTS.

I THINK the cultivation of aquatics in the flower garden is not nearly so general as their beauty and facility of growth require. I have a small oval basin about 18 feet in the largest diameter, set round with a large rockery, which has for many months past been the most attractive feature in the garden, and at the very slightest expense or cost of trouble. I note a few facts for anyone desirous of making such an addition to their garden as that which has afforded me so much pleasure.

The form and size of the basin will, of course, be determined by the space and locality. If the oval is chosen, which I think is the most effective, a good proportion for the diameter is 3 to 2, and according to taste the margin may be flat and only slightly raised above the general level, or carried up to 12 or 15 inches above the surface, so as to form a slope to back up the rockery and a site for the growth of *Sedums*, *Saxifrages*, &c. Ordinary poor cement concrete, with a thin surface coating of richer cement handfloated or trowelled off, are all that is requisite, and the cost should be inconsiderable. The depth of the basin need not exceed 3 feet, of which 9 or 10 inches may be filled-in with soil (or the latter may be confined to large pots or tubs disposed suitably on the bottom). In this the more robust plants may be planted.

A few crowns of the white and yellow Water Lily (*Nymphaea alba* and *N. lutea*) suffice in the course of a season or two to cover, if permitted, a large portion of the surface with leaves and flowers. I find the first by far the freest in flowering, and have an abundance of flowers from early in June to late in September. The *lutea* I find later in commencing and earlier in ceasing to flower. Both in shallow water vary the usual habit of growth by projecting a portion of their large leaves in handsome groups above the water.

There are many hardy aquatics both indigenous and exotic which may be introduced with good effect. The common Buckbean (*Menyanthes trifoliata*), for example, which requires only 6 or 8 inches of water, may be grown in pots or boxes supported on inverted pots. The floating stems will extend on either side, and produce bunches of white flowers at the end of May or beginning of June. The Flowering Rush (*Butomus umbellatus*). The Cape Lily (*Aponogeton distachyon*), noticeable for its profuse and long-continued bearing of bizarre white and speckled flowers. The *Villarsia Lily* (*Villarsia nymphaeoides*), beautiful either as to its small cordate variegated floating leaves, or the yellow blooms projecting conspicuously above the water surface. *Jussiaea grandiflora*, valuable as affording handsome yellow flowers late in the season and from having a very pretty habit of growth. Planted in shallow water it sends out numerous floating stems with, at frequent intervals, leaves and flower stalks; its growth is extraordinary. I have this season plants which have made 18 feet in growth from cuttings taken late last season and put out early this spring.

Handsome masses of foliage are afforded by several species of the Iris, the Water Plantain (*Alisma Plantago*), and the various Bullrushes. The common Marsh Marigold (*Caltha palustris*) plunged in pots in the early spring will yield for a few weeks beautiful groupings of foliage and handsome yellow flowers, and may then be removed to make room for other and later-flowering plants. The variety *Caltha palustris major* has larger and handsome double flowers, commencing about a month later than the preceding. Again, nothing can be more ornamental than the common Water Crowfoot (*Ranunculus aquatilis*) which decks so many of the ponds in the vicinity of London. This may be planted in small tufts, and will develop its surface leaves and great profusion of gay white and yellow blooms for several months, commencing in the early spring and lasting till May. The Frogbit again (*Hydrocharis morsus-ranae*) is an interesting plant, with free floating G-like leaves, extending by runners sending down filamentous roots. The small white flowers are produced for a month or two above the surface. The *Calla aethiopica* succeeds in a small depth of water; other *Nymphaeas*, such as the charming *N. odorata minor*, and many other plants procurable from several of our florists may be employed in the basin. Where stove or even greenhouse accommodation is possessed for shelter during winter a beautiful variation may be secured by putting out in the summer months the strange-looking floating *Pontederia crassipes* and the *Limncharis Humboldtii*, graced with a lovely *Convolvulus*-like large primrose-coloured bloom.

If a plentiful water supply is obtainable and the pond is intended to subserve watering purposes, its abundant and frequent addition will insure cleanliness. If otherwise, the principle familiar to the possession of aquariums may be adopted, and no more added than is requisite to supply the loss from evaporation. In this case, after having become clouded for a time by minute coniferoid vegetation, will clear itself and remain so, this desideratum being hastened by the introduction of such fast-growing plants as *Myriophyllum spicatum*, *Anacharis Alsinastrum*, *Ceratophyllum demersum*, &c., which rapidly oxygenate the water and also leave a supplemented groundwork to the more conspicuous form. These can readily be removed from time to time when too abundant.

There are some plants, such as the Water Soldier (*Stratiotes aloides*), which have great effect, with, however, the objection that they are liable to emit secretions. If only a few water snails exist in the pond (and these latter are sure to be introduced sooner or later), a few bright-coloured gold fish and Crimean carp form appropriate and ornamental additions. Central fountains are to my mind eyesores, unless provision is made for their continuous supply. —J. PITHERS.

FORCING VEGETABLES.

FRENCH BEANS.

FRENCH BEANS are from eight to ten weeks forming pods after the seed has been sown, therefore those who wish to have

a supply of this esteemed vegetable about Christmas should lose no time in sowing the seed. The French Bean is one of the easiest vegetables to force provided it is always kept growing, but in the winter season it must not be subjected to any kind of check, because once its growth stops it never does so well afterwards. It is in temperature and watering that checks are most liable to occur, and those with no perfectly heated forcing places should take care that they do not begin at this season with a higher temperature than they can afterwards maintain. It is always safest to begin with a low temperature and increase it afterwards. Any French Beans sown for producing before the new year are all started into growth in a cold frame, and by being kept a little close now and near the glass they grow strong and sturdy, and they go on rapidly when they are placed in a little heat. Now and always we start them into growth in 3-inch pots, placing eight or ten beans in each pot, and using a light rich mixture of loam and old Mushroom dung. One hundred pots give many dishes, and this quantity put in every three weeks will keep up a good supply, but for affording a smaller supply four dozen pots will be found very useful. Every person who has suitable accommodation should grow a few pots of French Beans, as two or three pots can be placed in one corner and two or three in another, and in this way the space they take up is hardly ever missed. We force ours chiefly on shelves in the Pine stove and in the beds of Melon and Cucumber pits, and all of these places answer the purpose very well.

As soon as the plants begin to look crowded in the small pots they are transferred to 8-inch pots. A few crocks are placed at the bottom of each, and a little rough manure and turf is placed over them, and the plants are then shifted without breaking the ball of roots. Light rich soil is again used in potting, and little water is given until the roots take hold of the new soil; after that they are never allowed to suffer by want of water, and on all fine days they are lightly syringed to prevent red spider doing injury. This is the only insect that troubles them. They should not be syringed much when in flower, and at that time liquid manure should be given them. The pods should never be allowed to become old on the plants, especially at first, or they will not continue bearing for any length of time.

In the month of November and after that we do not start them into growth in a cold frame, but in a house very slightly heated, always taking care not to give them a "quick start" in a high temperature. They will start freely into growth in a heat of 50°, and they will grow to maturity in an average of 60° or 65°. When French Beans are placed in early vineries great care is necessary to prevent red spider from gaining a footing on them, as it will quickly reach the Vines and may do much harm to them. The Beans may be started into growth in an early vinery in spring, but we do not like to trust them there to make their growth. Osborn's Forcing and Fulmer's Forcing are both good varieties, and may be depended on for giving a supply at all seasons.—A KITCHEN GARDENER.

THE ROSE ELECTION.—No. 4.

MANY thanks to "D., Deal," for his kind acknowledgment of the election labours. It is unnecessary to allow that there is a large amount of work in it, but perhaps without it or something similar I should be often like Pickwick's fat boy, "in the arms of Porpus;" the thorns of the Roses, I suppose, help to keep me awake. I cannot now say on whose authority I gave the credit of Lord Macaulay to Mr. Ward; it was so stated last year and passed without challenge. Souvenir d'Elise was also last year given to Marest; the latter I find given to Marest in Ellwanger & Barry's catalogue, the only catalogue that attempts to give the raisers of the older varieties. If "D., Deal," can prove that these two raisers' names are incorrectly given now would be the time to make a note of it.

To "A LOVER OF ROSE SHOWS" in reference to duplicate Roses, he may judge for himself by consulting the poll, in which the votes given to each of these Roses separately mark the estimation in which each is held. As I make it out, Ferdinand de Lesseps is far and away considered the best of that set; Eugénie Verdier, Baron de Bonstetten, and Alba Rosea of theirs; so that were I asked to give an opinion I should give the general opinion as evidenced by these votes. In the case of Eugénie Verdier I might qualify it by stating that I personally consider Marie Finger the more robust.

Lastly, to "ONE OF THE MILLION" I may say that the general exhibition varieties being fairly set at rest for a year

or two by the present election—though of course it will not agree with the opinion of any separate elector—I propose, with the consent of our Editors, to have next year a smaller election of the best exhibition varieties of recent introduction, and also one of garden varieties. This I fancy will enlist our friend Rev. W. F. Radclyffe's sympathies, and I venture to predict that not a few in the forty-eight will obtain honourable mention even for their garden qualities. By-the-by, has our friend tried Marie Baumann on the seedling Briar? If so, I hope he has changed his opinion about this brilliant jewel of the Rose tribe.—JOSEPH HINTON, *Warminster.*

IN the following closing returns of forty-eight varieties the Roses are placed as the first best twelve, second best twelve, and next best twenty-four exhibition varieties.

Mr. JOHN FRENCH, *Gardener to Rev. J. P. Tomlinson, Rooklands Devon.*

- | | |
|-----------------------------|-----------------------------|
| 1. Marie Baumann | 7. Etienne Levat |
| 2. Maréchal Niel | 8. François Michelin |
| 3. La France | 9. Louis Van Houtte |
| 4. Charles Lefebvre | 10. Madame Victor Verdier |
| 5. Baronne de Rothschild | 11. Marguerite de St. Amand |
| 6. Alfred Colomb | 12. Ferdinand de Lesseps |
| 13. Marquise de Castellane | 13. Comtesse de Serenye |
| 14. Mlle. Marie Rady | 20. Marie Van Houtte |
| 15. Dupuy Jamain | 21. Victor Verdier |
| 16. Catherine Mermet | 22. Souvenir d'Elise |
| 17. Comtesse d'Oxford | 23. Reynolds Hole |
| 18. Devoniensis | 24. Dr. Andry |
| 25. Horace Vernet | 37. Sénateur Vaisse |
| 26. Auguste Rigotard | 38. Pierre Notting |
| 27. Amélie Hoste | 39. Camille Bernardin |
| 28. Abel Carrière | 40. Duchesse de Vallombrosa |
| 29. Mlle. Annie Wood | 41. Duke of Edinburgh |
| 30. Capitaine Christy | 42. Duc de Wellington |
| 31. Beauty of Waltham | 43. Souvenir d'un Ami |
| 32. John Hopper | 44. Niphotos |
| 33. Madame Charles Wood | 45. Edouard Morren |
| 34. Monsieur Noman | 46. Mlle. Marie Comtet |
| 35. Mlle. Eugénie Verdier | 47. Le Havre |
| 36. Prince Camille de Rohan | 48. Monsieur E. Y. Teas |

Mr. J. SMITH, *Warminster.*

- | | |
|------------------------------|--------------------------------|
| 1. Maréchal Niel | 7. François Michelin |
| 2. Charles Lefebvre | 8. Mlle. Marie Rady |
| 3. Alfred Colomb | 9. Xavier Olibo |
| 4. La France | 10. Abel Grand |
| 5. Triomphe de Rennes | 11. Marquise de Castellane |
| 6. Marie Baumann | 12. Beauty of Waltham |
| 13. Edouard Morren | 19. Lord Macaulay |
| 14. Fisher Holmes | 20. Madame Charles Wood |
| 15. Baronne de Rothschild | 21. Mlle. Eugénie Verdier |
| 16. Annie Laxton | 22. Sénateur Vaisse |
| 17. Général Jacqueminot | 23. Souvenir d'un Ami |
| 18. John Hopper | 24. Céline Forestier |
| 25. Jules Margottin | 37. Victor Verdier |
| 26. Anna de Diesbach | 38. Devoniensis |
| 27. Centifolia Rosea | 39. Princess Mary of Cambridge |
| 28. Comtesse d'Oxford | 40. Madame Willernoz |
| 29. Duc de Wellington | 41. Pierre Notting |
| 30. Dupuy Jamain | 42. Madame Lacharme |
| 31. Hector Jacquin | 43. Ferdinand de Lesseps |
| 32. Louis Van Houtte | 44. Etienne Levat |
| 33. Paul Neyron | 45. Duke of Edinburgh |
| 34. Souvenir de la Malmaison | 46. Dr. Andry |
| 35. Madame Margottin | 47. Capitaine Christy |
| 36. Gloire de Dijon | 48. Emilie Hausburg |

Mr. ROBERT CRAIG, *Gardener to General the Hon. A. Upton, Levent Hall, Westmoreland.*

- | | |
|---------------------------|-------------------------------|
| 1. Maréchal Niel | 7. Lord Macaulay |
| 2. Alfred Colomb | 8. Louis Van Houtte |
| 3. Edouard Morren | 9. Marie Baumann |
| 4. Exposition de Brie | 10. Pierre Notting |
| 5. Hippolyte Jamain | 11. Reynolds Hole |
| 6. La France | 12. Prince Camille de Rohan |
| 13. Gloire de Dijon | 19. Etienne Dupuy |
| 14. Baronne de Rothschild | 20. François Michelin |
| 15. Boule de Neige | 21. Duchesse de Morny |
| 16. Camille Bernardin | 22. Madame Hippolyte Jamain |
| 17. Comtesse d'Oxford | 23. Sénateur Vaisse |
| 18. Dr. Andry | 24. Xavier Olibo |
| 25. Belle Lyonnaise | 37. Felix Genero |
| 26. Baron de Bonstetten | 38. François Louvat |
| 27. Baronne de Maynard | 39. Général Jacqueminot |
| 28. Capitaine Christy | 40. John Hopper |
| 29. Centifolia Rosea | 41. Leopold Premier |
| 30. Charles Lefebvre | 42. Lord Clyde |
| 31. Charles Rouillard | 43. Madame Clémence Joigneaux |
| 32. Clémence Raoux | 44. Madame George Schwartz |
| 33. Duc de Rohan | 45. Mlle. Annie Wood |
| 34. Duke of Edinburgh | 46. Monsieur Noman |
| 35. Elie Morel | 47. Rev. J. B. M. Camm |
| 36. Etienne Levat | 48. Thörin |

Mr. FRANCIS A. DICKSON, *The Nursery, Chester.*

- | | |
|--------------------------|----------------------------|
| 1. Baronne de Rothschild | 3. Duchesse de Morny |
| 2. Charles Lefebvre | 4. Duchesse de Vallombrosa |

- | | |
|-------------------------|-----------------------------|
| 5. Devoniensis | 9. Louis Van Houtte |
| 6. Etienne Levet | 10. Maréchal Niel |
| 7. Emilie Hausburg | 11. Marie Baumann |
| 8. La France | 12. Sénateur Vaisse |
| 13. Alfred Colomb | 19. Ferdinand de Lesseps |
| 14. Baron de Bonstetten | 20. François Michelin |
| 15. Capitaine Christy | 21. Madame Lacharme |
| 16. Camille Bernardin | 22. Marguerite de St. Amand |
| 17. Comtesse de Serenye | 23. Mdlle. Marie Rady |
| 18. Comtesse d'Oxford | 24. Xavier Olibo |
| 25. Abel Carrière | 37. Madame Charles Crapelet |
| 26. Abel Grand | 38. Madame Ferdinand Jamain |
| 27. Beauty of Waltham | 39. Madame Victor Verdier |
| 28. Belle Lyonnaise | 40. Madame Vidot |
| 29. Dr. Andry | 41. Madame Eugénie Verdier |
| 30. Duke of Edinburgh | 42. Marquise de Castellane |
| 31. Dupuy Jamain | 43. Marquise de Mortemart |
| 32. Elie Morel | 44. Pierre Notting |
| 33. Horace Vernet | 45. Prince Camille de Rohan |
| 34. John Hopper | 46. Princess Beatrice |
| 35. Leopold I. | 47. Reynolds Hole |
| 36. Lord Macaulay | 48. Star of Waltham |

Messrs. MITCHELL, *Pitdown Nurseries, Uckfield.*

- | | |
|-----------------------------|-----------------------------|
| 1. Marie Baumann | 7. Charles Lefebvre |
| 2. Alfred Colomb | 8. Duke of Edinburgh |
| 3. La France | 9. Catherine Mermet |
| 4. Baronne de Rothschild | 10. Souvenir d'Elise Vardon |
| 5. Louis Van Houtte | 11. François Michelin |
| 6. Maréchal Niel | 12. Marquise de Castellane |
| 13. Mdlle. Marie Rady | 19. Duc de Wellington |
| 14. Comtesse d'Oxford | 20. Horace Vernet |
| 15. Victor Verdier | 21. Sénateur Vaisse |
| 16. Mdlle. Eugénie Verdier | 22. Madame Victor Verdier |
| 17. Devoniensis | 23. Edouard Morren |
| 18. Souvenir d'un Ami | 24. Sir Garnet Wolseley |
| 25. Elie Morel | 37. Mdlle. Marie Cointet |
| 26. Prince Camille de Rohan | 38. Marie Van Houtte |
| 27. Capitaine Christy | 39. Dr. Andry |
| 28. Mdlle. Thérèse Levot | 40. Jean Pernet |
| 29. Pierre Notting | 41. Souvenir de Paul Neyron |
| 30. Ferdinand de Lesseps | 42. Reynolds Hole |
| 31. Fisher Holmes | 43. Monsieur E. Y. Teas |
| 32. Dupuy Jamain | 44. Lord Macaulay |
| 33. Xavier Olibo | 45. Napoleon III. |
| 34. Comtesse de Serenye | 46. Monsieur Boncenne |
| 35. Etienne Levot | 47. Madame Willermoz |
| 36. Abel Grand | 48. Belle Lyonnaise |

Mr. BALCHIN, *Hassock's Gate, Cliftonville, Brighton.*

- | | |
|-----------------------------|-----------------------------|
| 1. Alfred Colomb | 7. Charles Lefebvre |
| 2. Marie Baumann | 8. Duke of Edinburgh |
| 3. Louis Van Houtte | 9. Eugénie Verdier |
| 4. Maréchal Niel | 10. Madame Victor Verdier |
| 5. François Michelin | 11. Baronne de Rothschild |
| 6. Mdlle. Marie Rady | 12. La France |
| 13. Duchesse de Morny | 19. Duc de Wellington |
| 14. Catherine Mermet | 20. Ferdinand de Lesseps |
| 15. Marguerite de St. Amand | 21. Capitaine Christy |
| 16. Comtesse d'Oxford | 22. Sir Garnet Wolseley |
| 17. Dr. Andry | 23. Prince Camille de Rohan |
| 18. Reynolds Hole | 24. Marquise de Castellane |
| 25. Star of Waltham | 37. John Hopper |
| 26. Etienne Levot | 38. Sénateur Vaisse |
| 27. Annie Wood | 39. Lord Macaulay |
| 28. Fisher Holmes | 40. Miss Hassard |
| 29. Devienne Lamy | 41. Duchesse de Caylus |
| 30. Auguste Rigotard | 42. Dupuy Jamain |
| 31. Emilie Hausburg | 43. François Fontaine |
| 32. Marquise de Mortemart | 44. Madame Thérèse Levot |
| 33. Rev. J. B. M. Camm | 45. Souvenir d'un Ami |
| 34. Camille Bernardin | 46. Madame Lacharme |
| 35. Madame Bravy | 47. Pierre Notting |
| 36. Madame G. Schwartz | 48. Jean Ducher |

Mr. H. MAY, *Bedale, Yorkshire.*

- | | |
|-----------------------------|----------------------------|
| 1. Alfred Colomb | 7. Marie Baumann |
| 2. Charles Lefebvre | 8. Etienne Levot |
| 3. Comtesse de Serenye | 9. Princess Beatrice |
| 4. Duke of Edinburgh | 10. Rev. J. B. M. Camm |
| 5. Emilie Hausburg | 11. Royal Standard |
| 6. François Michelin | 12. Star of Waltham |
| 13. Antoine Ducher | 19. La France |
| 14. Camille Bernardin | 20. Madame Lacharme |
| 15. Duchesse d'Ossuna | 21. Madame Victor Verdier |
| 16. Duchesse de Vallombrosa | 22. Monsieur Noman |
| 17. Ferdinand de Lesseps | 23. Oxonian |
| 18. Hippolyte Jamain | 24. Maréchal Niel |
| 25. Antoine Monton | 37. Mdlle. Marie Finger |
| 26. Baronne de Rothschild | 38. Mdlle. Marie Cointet |
| 27. Capitaine Christy | 39. Marchioness of Exeter |
| 28. Comtesse d'Oxford | 40. Mdlle. Marie Rady |
| 29. Duke of Connaught | 41. Marquise de Castellane |
| 30. Emily Laxton | 42. Monsieur E. Y. Teas |
| 31. Fisher Holmes | 43. Mrs. Baker |
| 32. John Hopper | 44. Olivier Delhomme |
| 33. Duchesse de Morny | 45. John Stuart Mill |
| 34. Louis Van Houtte | 46. Pierre Notting |
| 35. Louis Peyronny | 47. Reynolds Hole |
| 36. Madame Charles Wood | 48. Sir Garnet Wolseley |

Mr. H. MERRYWEATHER, *Southwell.*

- | | |
|-----------------------------|-----------------------------|
| 1. Marie Baumann | 7. La France |
| 2. Maréchal Niel | 8. Mdlle. Marie Rady |
| 3. Louis Van Houtte | 9. François Michelin |
| 4. Charles Lefebvre | 10. Dr. Andry |
| 5. Baronne de Rothschild | 11. Reynolds Hole |
| 6. Alfred Colomb | 12. Etienne Levot |
| 13. Sénateur Vaisse | 19. Mdlle. Eugénie Verdier |
| 14. Ferdinand de Lesseps | 20. Madame Victor Verdier |
| 15. Marquise de Castellane | 21. Duke of Edinburgh |
| 16. Comtesse d'Oxford | 22. Catherine Mermet |
| 17. Monsieur E. Y. Teas | 23. Marie Van Houtte |
| 18. Marguerite de St. Amand | 24. Camille Bernardin |
| 25. Duchesse de Vallombrosa | 37. Madame Hippolyte Jamain |
| 26. Horace Vernet | 38. Beauty of Waltham |
| 27. Dupuy Jamain | 39. Monsieur Noman |
| 28. Emilie Hausburg | 40. Pierre Notting |
| 29. John Hopper | 41. Edouard Morren |
| 30. Souvenir d'Elise | 42. Madame Lacharme |
| 31. Star of Waltham | 43. Anna Olivier |
| 32. Souvenir d'un Ami | 44. Sir Garnet Wolseley |
| 33. Xavier Olibo | 45. Miss Hassard |
| 34. Capitaine Christy | 46. Belle Lyonnaise |
| 35. Duc de Wellington | 47. Niphotos |
| 36. Fisher Holmes | 48. Thomas Mills |

Mr. FRETtingham, *Beeston Nursery, Nottingham.*

- | | |
|---------------------------|-----------------------------|
| 1. Marie Baumann | 7. Alfred Colomb |
| 2. Charles Lefebvre | 8. Comtesse de Serenye |
| 3. Reynolds Hole | 9. Monsieur E. Y. Teas |
| 4. La France | 10. Baronne de Rothschild |
| 5. Horace Vernet | 11. Comtesse d'Oxford |
| 6. Marquise de Castellane | 12. Pierre Notting |
| 13. Louis Van Houtte | 19. Dupuy Jamain |
| 14. Madame Lacharme | 20. Duchesse de Vallombrosa |
| 15. Etienne Levot | 21. Miss Hassard |
| 16. Maréchal Niel | 22. Xavier Olibo |
| 17. Dr. Andry | 23. Mdlle. Eugénie Verdier |
| 18. Edouard Morren | 24. Sultan of Zanzibar |
| 25. Auguste Rigotard | 37. Star of Waltham |
| 26. François Michelin | 38. Monsieur Noman |
| 27. Mdlle. Marie Rady | 39. Devoniensis |
| 28. Rev. J. B. M. Camm | 40. Prince Camille de Rohan |
| 29. Exposition de Brie | 41. Lord Macaulay |
| 30. La Duchesse de Morny | 42. Madame Hippolyte Jamain |
| 31. Princess Beatrice | 43. Hippolyte Jamain |
| 32. Capitaine Christy | 44. Oxonian |
| 33. Paul Neyron | 45. Beauty of Waltham |
| 34. Madame Victor Verdier | 46. Madame C. Crapelet |
| 35. John Hopper | 47. La Reine |
| 36. Sir Garnet Wolseley | 48. Jean Ducher |

Mr. RUMSEY, *Joyning's Nursery, Waltham Cross.*

- | | |
|-----------------------------|-----------------------------|
| 1. Abel Carrière | 7. La France |
| 2. Annie Laxton | 8. Louis Van Houtte |
| 3. Baronne de Rothschild | 9. Mdlle. Marie Rady |
| 4. Comtesse de Serenye | 10. Monsieur E. Y. Teas |
| 5. Duc de Montpensier | 11. Marguerite Brassac |
| 6. Marie Baumann | 12. Maréchal Niel |
| 13. Alfred Colomb | 19. Leopold Premier |
| 14. Duchesse de Vallombrosa | 20. Marquise de Castellane |
| 15. Etienne Levot | 21. Pierre Notting |
| 16. François Michelin | 22. Edouard Morren |
| 17. John Hopper | 23. Star of Waltham |
| 18. Charles Lefebvre | 24. Sénateur Vaisse |
| 25. Avocat Duvivier | 37. Lælia |
| 26. Comtesse d'Oxford | 38. Madame Lacharme |
| 27. Capitaine Christy | 39. Madame Ferdinand Jamain |
| 28. Devienne Lamy | 40. Mdlle. Marie Finger |
| 29. Dr. Andry | 41. Madame Prosper Langier |
| 30. Duke of Edinburgh | 42. Madame Victor Verdier |
| 31. Duke of Connaught | 43. Marguerite de St. Amand |
| 32. Ferdinand de Lesseps | 44. Princess Beatrice |
| 33. Fisher Holmes | 45. Souvenir de Spa |
| 34. Hippolyte Jamain | 46. Rev. J. B. M. Camm |
| 35. Jean Liabaud | 47. Xavier Olibo |
| 36. La Rosière | 48. Royal Standard |

ACHILLEA UMBELLATA.

THIS plant, which was sent out I believe by Messrs. Backhouse & Son of York a few years ago, is one of the best of the white-leaved section of carpet-bedding plants that I know. I was surprised not to see it more in vogue in the London parks, as it has higher qualities to recommend it than have many plants that I saw grown there. It is perfectly hardy, but it answers best to strike a batch of cuttings every year, either in the autumn or in the spring. I like spring-struck cuttings best, unless it is wanted to raise a large stock in a short time. I take the old plants up and place them in boxes as thick as they will stand without overcrowding, and stored in a cold house or frame. These supply a large quantity of cuttings in February or March, which will strike freely in any shady place where the temperature does not fall much lower than 45°. The cuttings are inserted in pans or boxes about 1½ inch apart, where they remain till bedding-out time. They should be planted not wider than 3 or 4 inches apart, as they are not

rampant growers, but soon form tufts of beautiful white deeply serrated, or rather pinnated leaves. They never rise above 2 inches high, and the growth is so compact that the surface is always perfectly level, without so much clipping, pinching and training, so necessary with many other plants used for carpet bedding. The colour, compact habit, and above all its strikingly pretty leaves as well as its hardiness and easiness of cultivation, ought to make this plant one of the greatest favourites in future for the style known as carpet bedding.—R. M'INTOSH.

TEBBS' UNIVERSAL STOVE.

SOME time ago Mr. Tebbs invented, and first submitted to the gardening world through these columns, his universal fumigator, a simple and useful garden appliance which has met with a very large share of patronage both by gardeners and amateurs. Encouraged by the success of that article, and recognising the want of a portable, cleanly, safe, and effectual apparatus for excluding frost from the small greenhouses of amateurs, the inventor directed his attention to that object; the result is the "Universal Stove" now submitted to the public.

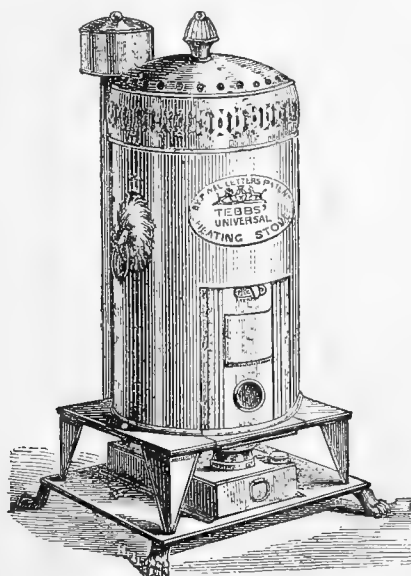


Fig. 45.—Tebbs' Universal Stove—Elevation.

This stove differs from all others that we have seen that are heated by gas or paraffin, inasmuch as it is not a gas or paraffin stove merely but a hot-water apparatus; and it again differs from the orthodox mode of heating by hot water, because the heat is given off from the inside instead of the outside of the pipes.

"In introducing to the notice of the public this new heating apparatus, my main object," says Mr. Tebbs, "has been to place in the hands of all interested in the cultivation of plants under glass an original, safe, and economical means by which the greatest amount of heat can be obtained with the smallest amount of fuel; the stove requiring little or no attention for twenty-four hours, and giving off nothing but pure heated air. This is obtained by bringing the pipes or tubes together in one body, and allowing the smallest space between them for the circulation of hot water on their outer circumference, retaining the inner circumference for the heating of the atmosphere as it ascends by the natural attraction of the vertical heated tubes or pipes."

As will be seen by the accompanying figures the stove is simply a bundle of pipes vertically arranged and open at both ends, every pipe being surrounded by water, the whole being enclosed in a cylinder. On the water being heated the heat is of course distributed from the inner surfaces of the pipes—is, in fact, heated air, the cold air constantly rushing in at the bottom of the pipes and passing out at the top in a heated state through a perforated lid. This lid is moveable. The stove which we inspected at work was heated by a paraffin lamp, and on removing the lid we can

testify that the heated air was perfectly sweet. The circulation of the water is secured by a pipe arranged at the back of the stove at the outside, the top being the "feed," seen in the engraving (fig. 46), the bottom entering the stove at its lowest point.

The "feed," or reservoir, is also by a simple contrivance made to act as a condenser. A pipe passes through the bottom of it, its upper orifice being close to the inner side of the lid. Through this pipe a cool current of air passes, keeping the lid comparatively cool and condensing the steam which rises from the hot water. The pipe named also acts as an overflow when the water rises to the top of it, as it occasionally may do when the water is boiling. By this arrangement the waste of water is minimised and the boiler only needs replenishing once in twenty-four hours, and then only by adding less than half a pint when the stove has been highly heated during the whole time.

Very simple and efficient is the arrangement at the bottom of the apparatus for dressing the wick and replenishing the oil. In ordinary paraffin stoves the cylinder has to be raised for that purpose, but in the "Universal" that is not necessary. A slide is raised and the vessel is drawn forward after the manner of drawing out an ashpan, and the work is done with

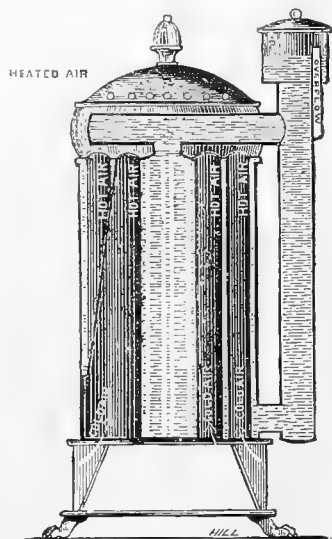


Fig. 46.—Tebbs' Universal Stove—Section.

the greatest ease. The vessel containing the oil is also kept cool, therefore perfectly safe, by being surrounded by a collar that is in contact with the lower part of the stove where the cold air passes, and where also the water is necessarily in the coolest state.

The heat is, of course, quite under command by simply turning on or diminishing the flame as required; but on this point a word of caution may be given, for although the lamp may be turned down to its lowest burning point it should never be so low that the flame is below the shield of the burner; for, as pointed out by Mr. Tebbs, unless the flame is in contact with the air the gas evolved from the oil is not consumed and an unpleasant smell is produced.

A "false top" can be fitted to the stove to hold water, so that vapour in proportion to the heat of the stove can pass into the house as required. This also we saw in operation.

The stove is made of block tin, and is neat in appearance and durable. We consider it worthy of trial, and draw attention to it as the most promising stove of the kind that has come under our notice.

ROSES.

I HAVE unwittingly omitted the name of the best all-round H.P., Jules Margottin from my list on page 276. I will not withdraw any of those named, but trust "Jewels" may be considered one of the forty which are not thieves. I have always been of the opinion that the election should not be confined to exhibition Roses, but that the list should be of Roses for exhibition and ornament. The best suggestion rela-

tive to Roses that I have seen for some time is by "ONE OF THE MILLION," page 280. 1, The freest bloomers; 2, the hardest; 3, the best for bouquets. I beg to add 4, the best for scent; 5, the best in bud for button holes. Expanded Roses are not good for button holes. The opening buds of the following are very good—Solfaterre, Triomphe de Rennes, Madame Knorr, Jules Margottin, Marguerite de St. Amand, Edward Morren, Rêve d'Or, Céline Forestier, and I suppose the Teas generally before expansion are good for the purpose. I doubt if Devonensis and Souvenir d'Elise have yet been excelled. Teas should be shown by themselves; Tea-Noisettes may be shown with the Hybrid Perpetuals.—W. F. RADCLIFFE.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 15TH.

SELDOM have we seen the Council Room so variedly and artistically furnished with rare, beautiful, and valuable plants, collections of cut flowers, and contributions of superior fruit, as it was on this occasion. Charming groups of Orchids and ornamental-foliaged plants were arranged by Messrs. Veitch, Williams, Bull, and Osborn; a fine assortment of Tuberous Begonias by Messrs. J. Laing & Co.; a grand collection of hardy flowers by Mr. R. Parker, Tooting; remarkably beautiful boxes of Roses by Messrs. William Paul and Son; various cut flowers by Mr. Cannell; excellent groups of plants from Chiswick, and a wonderful collection of hardy plants by Messrs. Veitch suitable for outdoor decoration during winter. It was in fact one of the best meetings of the season, the whole of the room and entrance being filled with objects of great horticultural interest.

FRUIT COMMITTEE.—Henry Webb, Esq., V.P., in the chair. Mr. Goodacre, gardener at Elvaston Castle, Derby, sent six handsome bunches of Lady Downe's Grape, which were awarded a cultural commendation. Mr. Harrison Weir, Weirleigh, Kent, sent bunches of Muscat Champion splendidly grown, and though not quite ripe were awarded a cultural commendation, of Venn's Muscat two large bunches, and of his seedling "The Artist," which is so much like the Black Hamburg that the Committee requested to see it again. Messrs. Lane & Son of Berkhamstead exhibited a magnificent collection of twelve varieties of Grapes, three bunches of each; the Muscats of Alexandria and Gros Colman were especially notable, and a gold medal was unanimously awarded by the Council. A number of varieties of Grapes were sent from the garden at Chiswick. Madresfield Court was in very good condition and good flavour, Mrs. Pince was also fine, and Dr. Hogg, which had become much shrivelled, was also rich in flavour. Golden Queen was inferior in flavour, and a constitutional defect was observed in the veins of the flesh which appeared to produce a sort of rot. A cultural commendation was awarded. G. F. Wilson, Esq., of Heatherbank, Weybridge, sent very fine fruit of Doyenné du Comice Pear, beautiful in colour and delicious in flavour. The fruit was set in an orchard house and ripened out of doors. A cultural commendation was awarded. Messrs. W. Paul & Son exhibited fruit of two Pears, one called Vingt Mars and the other Duc d'Alençon, neither of which possessed any great merit. Messrs. Rivers & Son of Sawbridgeworth sent fruit of three Plums, all of which are remarkable for their lateness. They were Bonnet d'Evêque, Wyedale, and Autumn Compôte. They also sent a seedling Pear from Beurré de Capiaumont, and one from Léon Leclerc de Laval, neither of which had much merit. A seedling Bergamot had greater merit. The following Apples were also exhibited: American Mother, Washington, Pine Golden Pippin, Scarlet Golden Pippin, and Bijou. A letter of thanks was awarded for the collection. Miss Emily L. Lowther Thornton, Ryde, sent a seedling Apple, which was recognised as Hollandbury. Mr. John Redshaw, Bourne, Lincolnshire, sent two seedling Apples, neither of which possessed much merit. The fruit of a very handsome and fine Apple called Baumann's Red Winter Pearman was received from the garden at Chiswick. It is like a highly-coloured Blenheim Pippin with some russet upon it, and was awarded a first-class certificate. A very excellent Melon called Exquisite was shown by Mr. C. Tyler, The Gardens, Hassobury, Bishop Stortford, but it was rather over-ripe. Mr. W. Johnson, The Gardens, Bayham Abbey, Kent, sent a seedling Melon called Bayham Hybrid, which was inferior in flavour.

Mr. Alexander Maule of Bristol sent some fine specimens of fruit of *Pyrus Maulei*, and a pot of marmalade made from the fruit. Mr. Miles of Wycombe Abbey Gardens sent five fine specimens of Lord Carington Pine Apple, to which a first-class certificate was awarded last year, and now a silver medal was awarded for the present exhibition. It is a distinct and handsome Pine and esteemed for its good keeping properties. Mr. Sage, The Gardens, Ashridge Park, Berkhamstead, sent a specimen of Black Hamburg Vine in a pot most artistically trained and bearing eleven excellent bunches. It was awarded a silver medal. Mr. Peter McKinlay, Beckenham, sent a dish of Woodstock Kidney Potato, a handsome kidney, very smooth, and with few eyes. It was awarded a first-class certificate.

Mr. G. Goldsmith, gardener to P. Hardwicke, Esq., Hollenden, Tonbridge, sent a good collection of Pears, which was awarded a silver medal. Some very interesting collections were exhibited by the following nurserymen:—Messrs. Veitch & Sons, ninety-nine varieties of Apples grown in their Fulham Nursery on the French Paradise stock; Messrs. William Paul & Son, 150 varieties; Messrs. Paul & Son, Cheshunt, sixty varieties of Apples and thirty of Pears; Messrs. Lane & Son, Berkhamstead, fifty varieties of Apples; and from the Society's Garden one hundred varieties of Pears. To all of these a letter of thanks was awarded. Mr. R. Dean of Ealing exhibited thirty-six varieties of Potatoes, to which a letter of thanks was awarded. Mr. Allan, The Gardens, Gunton Park, Norwich, sent a large basketful of the Brown Dutch Cabbage Lettuce.

MR. PEARSON'S PRIZES FOR GRAPES.—The prizes offered for the single bunches of Golden Queen and Mrs. Pearson Grapes were awarded at this meeting. In the class for Golden Queen eight bunches were staged; Mr. Atkins, gardener to Col. Loyd Lindsay, Lockinge, Berks, winning the first position with a bunch about 14 inches long, tapering, full, berries fine, regular in size, and clear; Mr. Henderson, gardener to J. Deacon, Esq., Mableton Park, Tonbridge, was awarded the second prize for very good bunches and remarkably fine berries; Mr. Anderson, gardener to R. Clifton, Esq., Clifton, Notts, being third. Mr. Iggulden, The Gardens, Orsett Hall, exhibited the ripest and best-coloured bunch, cut from a Vine grown in a pot. It was well finished but not large.

Only three bunches of Mrs. Pearson were staged. The first prize went to Mr. Allan, gardener to Lord Suffield, Gunton Park, for a compact bunch weighing about 1 lb. with good, clear, well-finished berries. Mr. Taylor, gardener to J. McIntosh, Esq., Duneevan, Oatlands Park, Weybridge, was second with a much larger and full bunch, but berries not quite clear; and Mr. Goodacre, Elvaston Castle, third, with a bunch still larger and not well finished.

FLORAL COMMITTEE.—Dr. Denny in the chair. Commencing at the end of the room, and noting the collections in the order of their arrangement, we find first a splendidly grown plant of *Vanda cœrulea* grown by Mr. Smith, gardener to C. Lane, Esq., Badgemore, Henley-on-Thames. The plant had five spikes and eighty-seven fine flowers. Medals having been previously awarded for this fine specimen, a special letter of thanks was directed to be sent to Mr. Smith. Across the end of the room were arranged Mr. W. Paul's six splendid boxes of cut Roses; amongst the varieties were Safrano, Madame Berard, Marie Van Houtte, Souvenir de Malmaison, Niphetos, all shown in the full charm of their beauty and in large quantities, and nearly fifty others were in lesser numbers but in almost equal beauty, amongst them *Isabella Sprunt* was especially lovely, it is one of the finest of Roses for button holes. A silver Flora medal was recommended to be given for this beautiful collection. We next come to Messrs. Veitch's group, small but chaste, and containing plants of great rarity and beauty. The striking plant was *Phalenopsis violacea*, which is noticed in another column, and to which a botanical certificate was awarded. The equally rare and curious miniature *P. Esmeralda* with purplish rose flowers and purple lip was exhibited, also a new *Cattleya*—*Mastersiana*, a seedling raised at Chelsea. It has very fine pale magenta sepals, orange throat, and violet-crimson lip; *Cypripedium albo-purpureum* was also included; *Dendrobium bigibbum*, and *D. bigibbum superbum*; a fine pan of *Begonia Queen of Whites*, *Anthurium Schotzerianum superbum*, a very fine pure white spathe; and *Lastrea aristata variegata*, a beautiful and free-growing Fern, the base of the glossy green pinnæ being creamy white. For the two plants last mentioned first-class certificates were awarded.

Mr. B. S. Williams arranged a charming collection, many of the plants included being noticed in another column; but not the two fine *Crotons Prince of Wales* and *Burtonii*, nor the compact and brilliant *Croton Mrs. Bause*, nor a charming white variety of *Dendrobium bigibbum*. The *Pleione*s in this collection were very brilliant. A large gold medal was awarded for the collection.

Mr. Bull arranged a large and very fine group. Noticeable were several plants of *Sarracenia Drummondii* in small pots, well adapted for decorative purposes; a fine spike of the valuable conservatory climber *Bomarea Carderi*, to which a first-class certificate was awarded; a large plant of *Lastrea aristata variegata*, which received a similar award; the curious velvety crimson *Masdevallia velifera*, which was awarded a botanical commendation; a bright group of *Oncidium varicosum*, and in fine contrast *Dendrobium bigibbum*; a new *Bollea*, very remarkable; *Odontoglossum vexillarium roseum* very beautiful, also *D. Roezlii*; *Lilium neilgherrense*, *Lapagerias*, *Dracæna Goldieana*, *Crotons*, and *Palms*; also *Aspidium cernitum*, a very striking Fern, stately and robust, for which a first-class certificate was awarded, and a silver-gilt Banksian medal was recommended for the collection.

Messrs. Osborn & Sons, Fulham, arranged a group of hardy decorative plants and Palms. The plants of *Skimmia japonica* in this collection were profusely covered with berries. A silver Banksian medal was recommended. Messrs. Hooper & Co., Covent

Garden, exhibited a collection of *Nægeliæ*, but the plants had been spoiled in transit. A vote of thanks was awarded. Mr. Cannell exhibited a highly coloured sport of *Iresine Herbstii*, autumn-flowering *Chrysanthemums*, and beautiful single *Dahlias*. Mr. T. Moore also exhibited a collection of single *Dahlias* from the Chelsea Botanic Garden, showing how effective these old and almost forgotten flowers are for vase decoration, and received a vote of thanks. Mr. Rawlings exhibited Show *Dahlias Clara*, a splendid flower previously certificated, George Smith, and Baroness Burdett Courts.

We now come to Mr. R. Parker's wonderful collection of cut flowers of hardy border plants, which nobly held their own even when in contrast with the splendid groups above noticed. The back row from Tooting consisted of a central mass of *Helianthus oxygalis* with single yellow flowers, flanked by white and rose plumes of *Pampas Grass* and a great variety of *Asters* (*Michaelmas Daisies*); the finest of these were *Nova-anglæa*, *Amellus*, *lævis*, and *spectabilis*. Very striking were *Rudbeckias purpurea*, submontana, and *Newmanni*; as also were *Gaillardia hybrida* *Telemaquei*, *Pyrethrum uliginosum*, *Stokesia cyanea*, *Coreopsis lanceolata*, *Helianthus multiflorus majus*, *Tritoma grandis*, *Chrysanthemum lacustre*, &c. *Phloxes* were fine, also *Pompon Dahlias* in many varieties, and *Hyacinthus candicans*. A silver Flora medal was awarded.

The *Begonias* from Messrs. J. Laing & Co. were remarkable for their dwarf habit and finely formed flowers in various colours—a collection of great merit, for which a vote of thanks was awarded. Mr. H. Boller was awarded a first-class certificate for *Mammillaria sphacelata*, a dwarf-growing species with silvery spines. Mr. Green, gardener to Sir G. Macleay, exhibited cut sprays of *Dichorisandra thyrsiflora*, intense violet; *Aster Drummondii*, *Helianthus oxygalis*, and *Pyrethrum uliginosum*. A vote of thanks was awarded. Mr. Green was also awarded a first-class certificate for a grand spray of *Bomarea Carderi* containing forty-eight flowers.

From Mr. Davis, Ogles Grove Nursery, Hillingsborough, came an attractive collection of *Pernettyas* in variety. To one of these, *P. mucronata lilacina*, a first-class certificate was awarded. The berries were in dense clusters and silvery-lilac in colour, highly distinct. The varieties *Rosea purpurea* and *Rubra purpurea* were also very attractive.

There yet remains to be noticed the extraordinary collection of plants suitable for winter outdoor decoration exhibited by Messrs. Veitch. We are unable at present to enumerate the varieties, but an idea may be formed of the extent of the collection when it is stated that the plants were artistically arranged in upwards of a hundred flat baskets, each about 4 feet in diameter, and which completely filled the central portion of the entrance vestibule. They included miniature variegated foliaged shrubs, berry-bearing shrubs, flowering shrubs, Heaths, Japanese plants, and small Conifers in varied tints in extensive variety. It was quite the most complete exhibition of its kind that has ever been seen, and the Committee marked their high approval of it by recommending that the largest gold medal at the disposal of the Council be awarded to Messrs. Veitch.

From Chiswick came admirably grown plants of the valuable winter-flowering *Begonia Moonlight*; equally well grown *Mignonette*, the variety being named *Hensley's Giant*, and for which a cultural commendation was worthily awarded; the elegant *Nerine crispata*, the dwarf and dense-growing *Begonia prismatocarpa*, and well grown plants of *B. metallica*, very ornamental; also a collection of double *Pelargoniums*.

This was no doubt the finest October meeting that has yet been seen at South Kensington, and it was largely attended by horticulturists.

NOTES AND GLEANINGS.

We are authorised to announce that next spring the splendid collection of plants now at DANGSTEIN will be sold by auction by order of Lady Dorothy Nevill. An opportunity rarely occurs of a collection of specimen plants of such value being offered for sale.

— A VALUABLE and very rare Orchid has recently expanded in Messrs. Veitch's great collection at Chelsea—namely, *PHALENOPSIS VIOLACEA*. This is the first time this Orchid has flowered in any English nursery, and about the third time it has been seen flowering in Europe. It is most distinct and very beautiful. The petals and sepals are a little more than an inch long, stout, wax-like, and rather pointed. In colour they are fleshy white, tinted and tipped with buff, the base of each being of an intense purplish violet; the limb pale violet, and the labellum magenta-purple, with orange side laciniae. The leaves are large, stout, and of a clear glossy green. It is a very distinct species of a grand genus of plants. *P. Esmeralda* was also just on the eve of expansion at the time of our visit. Amongst other Orchids in flower we noticed grand examples of the Bornean variety of *P. grandiflora* with flowers exceeding 4 inches in diameter; *Oncidium varicosum*

and *Forbesii*, very fine; *Pleiones maculata* and *lagenaria*; *Dendrobium bigibbum* in variety, and *formosum giganteum*; *Laelias elegans*, very chaste, and *præstans*; *Cattleya exoniensis*; *Cœlogyne Cummingii*, richly scented; *Ionopsis paniculata*, a charming miniature; the valuable *Calanthe Veitchii*; *Aërides suavisimum*; *Miltonia Morelliana*; *Odontoglossum vexillarium*; *Vandas cœrulea*, *tricolor*, and *suavis*; several *Cypripediums*; a new *Stanhopea* from Costa Rica, and a new seedling *Cattleya Mastersiana* with fine mauve sepals, yellow throat, and violet lip. The extraordinary collection of Orchids not in flower are remarkable for their health, cleanliness, and generally excellent condition. They reflect honour on the nursery and credit on the growers who attend to them so well.

— THE beautiful Fern *MICROLEPIA HIRTA CRISTATA* exhibited last year by Mr. Williams and certificated is likely to become highly popular, as the plant increases in beauty as it increases in size. In growth it is very free, in habit graceful and elegant, in colour pleasing—a soft refreshing green peculiar to itself. As a basket Fern it is highly suitable, and for culture in pots one of the most free and useful for decorative purposes. The stock of this Fern at Holloway is very fine, and is admired by all visitors. A plant or plants should be grown by all who have at command a moderate but genial stove temperature. In the same nursery *Adiantum princeps* is very fine, and the new *A. neo-guineense* by its free growth is likely to become a valuable decorative and market plant. *Gleichenias* are remarkable by their numbers and condition, and in fine contrast are the fresh green "Filmies."

— THE new and distinct *BEGONIA QUEEN OF WHITES* is found to possess qualities that will render it especially valuable. In Messrs. Veitch's nursery plants of it closely planted in a cold frame yield beautiful white flowers profusely and continuously, which are in great demand for bridal bouquets. For furnishing vases, &c., flowers of this *Begonia* cannot fail being highly acceptable; they are pure white, not drooping, and grown as above indicated they are very large and beautiful.

— IN the Orchid house in Mr. B. S. WILLIAMS'S NURSERY AT HOLLOWAY is to be seen an arrangement of plants and flowers singularly bright yet chaste, and altogether charming. In a groundwork composed of *Lycopodium denticulatum* and *Isolepis gracilis* nestle rich masses of the brilliant Indian *Crocuses*, *Pleiones lagenaria*, *maculata*, and *Wallisii*, backed and flanked with such Orchids as *Oncidium tigrinum splendens*, *varicosum*, *Rogersi*, and a fine variety of *O. crispum*. Suspended from the roof, forming a fine canopy to the arrangement, are several plants of *Dendrobium formosum giganteum* covered with fine flowers, the group being altogether beautiful. On the side stages are flowering *Dendrobium superbiens*, which continues in flower for three months; *D. bigibbum*, *Lælia Dayana*, *Odontoglossum Rossii majus*, *Dendrochilum filiforme*, very bright; *Saccolabium majus*, and *Cymbidium Mastersii superbum*. The Orchids not in flower in this nursery are remarkable for their great numbers, robust health, and cleanliness, and powerfully impress the visitor with the importance of the trade of these aristocratic and growingly popular plants.

— RELIABLE correspondents inform us that *EUCALYPTUS GLOBULUS* flourishes not only in the Scilly Islands, but in some parts of Cornwall, near the Great Orme's Head, Llandudno, and Leamington on the banks of the Leam, and at Barns Elms near London.

— THE new hybrid *CYPRIPEDIUM ALBO-PURPUREUM* is now flowering again in Messrs. Veitch's nursery. It is the result of a cross between *C. Schlimii* and *C. Dominiana*. The flower is large and full, deep rose or rosy purple in colour, with a white-spotted throat; the tails are 4 inches in length and twisted. The plant is free in habit, almost robust; the leaves being long, bright glossy green, and gracefully arched. We shall be surprised if this, like *C. Sedeni*, does not prove an acquisition for decorative purposes.

— A NEW variety of *OUIVRANDRA* has been introduced by Dr. Hildebrandt into the botanical gardens at Berlin from Tropical Africa. The plant bears violet flowers on forked umbels, and is just about opening its blooms in its new home.

— WHILE on a visit to the gardens of Potterhanworth Rectory, near Lincoln, a fine specimen of *WELLINGTONIA GIGANTEA* standing on the lawn was pointed out to me. This tree was brought to the rectory in a small pot eighteen years ago by the present Rector, the Rev. Canon White, and is now a splendid specimen 35 feet high and 46 feet in circumference.

at 4 feet from the ground. I was also shown a plant of Maréchal Niel Rose which was planted inside the orchard house last March, and which has since made an aggregate growth of 65 feet. Some fine blooms are anticipated from this plant by the Rector and his able gardener Mr. Graham.—W. W.

BOUQUET DAHLIAS.

YOUR correspondent, Mr. William Taylor, in his article on "Mixed Borders for Autumn," page 253, asks to be supplied with a list of half a dozen liliputian or bouquet Dahlias. Having grown a few of these varieties for several years, I can confidently recommend the following as well worthy of cultivation:—

Guiding Star.—Pure white, quilled; very fine. 3 feet.

Northern Light.—Bright scarlet; dwarf and free.

Red Gauntlet.—Deep red; fine. 3 feet.

Pure Love.—Lilac rose; very fine. 2½ feet.

Little Dear.—Blush-white, flushed and tipped with rose; exquisite. 3 feet.

Little Dorrit.—Rosy lilac. 3 feet.—JOHN HENSHAW, *Harpenden, St. Albans*.

REGENT'S PARK.

It is unnecessary to enter into detail respecting the general features of this noble park, for they have been frequently referred to. We may, however, add that Mr. William Browne, the able Superintendent, who did so much to improve the flower gardening at Hampton Court, and which is now so well sustained by his successor Mr. Graham, has been especially successful in his floral arrangements in Regent's Park. A few years ago we scarcely looked for flower gardening in the park under notice beyond such as might be found in any ordinary garden in the country, but now the carpet beds are on an equal with those in the other London parks, and the great improvements lately made are highly appreciated by the thousands of visitors who crowd around the flower beds.



Fig. 47.

- | | |
|---|---|
| 1, Base of vase. | 5, <i>Mentha Pulegium gibraltaria</i> . |
| 2, <i>Coleus Verschaffeltii</i> . | 6, <i>Echeveria secunda glauca</i> . |
| 3, <i>Alternanthera paronychioides</i> [major]. | 7, <i>Mesembryanthemum cordifolium</i> |
| 4, <i>Sedum glaucum</i> . | variegatum. |

The carpet beds are somewhat intricate in outline, but all the colours have come out most beautifully, and every plant has filled its allotted space. The colours are well and evenly balanced, all the divisional lines are neatly defined, and the selection of plants is such as to at once impress the visitor with the fact that the whole work has been done by the hand of a master in the art of floral decoration. The carpet beds are all in duplicate—that is to say, beds of the same design are arranged opposite each other on both sides of the walk. Designs of two of the beds are submitted, showing the elegance of the patterns and the effective mode of planting the beds.

Subtropical bedding is also effectively carried out, and is highly appreciated. The plants have grown with great luxuriance, and this style of garden embellishment is considerably heightened in its effects by the rich and varied scenery that



Fig. 48.

- | | |
|--|--|
| 1, Base of vase. | 6, <i>Pyrethrum Golden Feather</i> . |
| 2, <i>Coleus Verschaffeltii</i> . | 7, <i>Alternanthera paronychioides</i> |
| 3, <i>Cerastium tomentosum</i> . | major. |
| 4, <i>Alternanthera amabilis latifolia</i> . | 8, <i>Sedum acre aurea</i> . |
| 5, <i>Mentha Pulegium gibraltaria</i> . | 9, <i>Echeveria secunda glauca</i> . |

surrounds it. The following are a few examples of planting the beds: Bed No. 1.—*Ricinus Gibsoni* carpeted with *Cineraria acanthifolia*, next a band of *Pelargonium Prince Arthur* edged with *Lobelia White Swan*. Bed 2.—Centre plant of *Dracæna indivisa*, surrounded with *Abutilon Thomsoni* variegata and *Iresine acuminata* mixed; next a band of *Pelargonium Bright Star* edged with *Alternanthera magnifica*. Bed 3.—Centre *Ricinus macrocarpa*, with a band of *Pelargonium Lucius*; then a band of *Iresine Lindenii* surrounded by a mass of *Mesembryanthemum cordifolium* variegatum, edged with *Echeveria secunda glauca*. Bed 4.—Centre *Hibiscus rosea sinensis* and *Sonchus laciniatus* mixed, carpeted with *Coleus* and *Begonias*; then a band of *Pelargonium Neatness* edged with *Lobelia pumila magnifica*, and margined with *Echeveria secunda glauca*. We might mention many others, but the above will give an idea of what is being done in Regent's Park, and what may be further expected in years to come. Mr. Browne is to be complimented on the improvements that he has effected since he took the charge of the park, for waste places are clothed with Ferns and other luxuriant verdure; in fact, the park has throughout the summer been extremely and variedly beautiful.—VISITOR.

RABY CASTLE.—No. 2.

THE arrangement of the glass at Raby is very scattered, no order or method being adopted. We arrive at the second and third Peach houses, 118 feet long and 12 wide. The second house contains Barrington and Royal George, the third being entirely devoted to Admirable. The trees were in perfect health and bear heavy crops of excellent fruit. In front of these houses near to the edge of the walk is quite a hedge of *Tritoma Uvaria*, which had a very imposing appearance at the time of our visit; in front of the *Tritoma* were Stocks, *Heliotropes*, &c. Near here was more subtropical bedding. The Scotch Thistle shone with graceful effect, its silvery appearance contrasting well with its metallic and sombre neighbours. We next pass the Box garden, a geometrical design by Mr. Westcott. Adjoining is a magnificent hedge of *Fuchsia Riccartoni* 5 feet across. There is also a ribbon flower border skirting this part of the kitchen garden, in which Duchess of Edinburgh *Viola* was very fine. We next pass to the south

border, where a fine view of the Castle is obtained. This border being winding Mr. Westcott has it tastefully bedded-out with flowers, and it extends the whole length of the garden. It is arranged ribbon fashion, and the long wavy lines of flowers were very beautiful. At the east end of this garden is the historic Raby Castle Fig which was planted nearly 150 years ago; it fills a house 40 feet long, and was bearing at the time of our visit the second crop of Figs. Many of the huge stems of this tree had been ringed, exhibiting the methods of former times to produce fruitfulness. Thanks to the rapid strides gardening has made in these last few years, this barbarous method is exploded. This tree still retains its wonderful producing properties and is in perfect health. The house is heated by a flue. On the top of the leads of the roof of this house, which overlaps the ventilation, has been trained a shoot of Ribston Pippin Apple, which was covered with fruit. Wending our steps westward along this magnificent border we catch beautiful glimpses of the park, which is very finely undulated. The wall of this garden

is well covered with fruit trees (many of the walls here are heated by hot-air pipes), exhibiting good taste in training. The varieties of Pears Mr. Westcott finds do best on the walls are Thompson's, Glou Morceau, and Williams' Bon Chrétien. Of Apples the great favourite here is Ribston Pippin for dessert, and which scarcely ever fails; the most useful and certain kitchen Apples being Lord Suffield, Keswick Codlin, and New Hawthornden. In the outdoor culture of fruit Mr. Westcott has much to contend against, as the atmosphere is very humid, and therefore sadly detrimental to the setting of the fruit and ripening of the wood.

We next enter one of the kitchen gardens, which is well stocked with small fruit trees, and see the parent plant of the justly celebrated Raby Castle Red Currant, and a host of other bushes of which it has been the progenitor. The wants of the ducal cuisine are immense, both as regards fruits and vegetables. Amongst vegetables of recent introduction Mr. Westcott speaks in high terms of Culverwell's Prolific Pea. About



Fig. 49.—RABY CASTLE—SOUTH SIDE.

1400 plants of Strawberries are forced in 5 and 6-inch pots; the pots are filled with the necessary compost, and the runners are then pegged in and allowed to remain uncut till the autumn. This method is found to save labour, and the runners have the advantage of the support of the parent plants for a lengthened period. Keens' Seedling, President, Garibaldi, and James Veitch, the latter being a great favourite, are the sorts employed for forcing. At the top of the kitchen garden is situated Mr. Westcott's house, which is a neat commodious structure, in a line with the conservatory. A fine ribbon border skirts the greater portion of the kitchen garden, and has for a background a magnificent collection of Phloxes in all the latest varieties, and on the opposite side of the walk, betwixt the conservatory and Mr. Westcott's house, were some fine Gladioli and Stocks beautifully intermingled, reminding us of some of the massive borders at Drumlanrig.

We come to the Pine pits, which consist of two fruiting pits, the varieties being Smooth Cayennes, Queens, and Charlotte Rothschild, the latter being valued as a winter Pine. The plants were very healthy, clean, and were showing some very fine fruit. In the fruiting Pine stove is a narrow border, in which pot Vines are planted out and trained over the pathway. After the Grapes are cut Melons are planted, and after them come winter Cucum-

bers, thus showing by judicious treatment how a little room can be profitably utilised; in front were the successional Pine pits, with a promising stock for future use. A little house contained plants of the Prince of Wales Capsicum, raised by Mr. Westcott. It is remarkable for its sturdy growth, which renders it invaluable for decorative purposes, its fruit being of a very pale yellow colour. We next come to the range of plant houses, the first house being 24 feet long by 19 wide, the roof of which is devoted to two magnificent plants of the white and red *Lapageria* interlaced. Never has it been our lot to see such a magnificent sight before, many of the white flowers measuring 4 inches in length, whilst the red was beautifully mottled. No one would begrudge going miles to see this lovely, and once seen never to be forgotten, sight. We noticed a fine *Gleichenia speluncæ*, *Nephrolepis davallioides*, and a magnificent specimen of *Todea superba* in a glass case, the plant measuring 5 feet across—a splendidly grown specimen. Next in order are two plant stoves, 43 feet by 20 feet, in which were a mixed collection of flowering and fine-foliaged plants and Orchids, all bearing the impress of high culture. An ingenious contrivance for decorating some of the ducal apartments used on state occasions to hide the bottoms of the windows merits notice. It consists of a species of *Vitis*, which is trained on a square

frame of about 4 feet high, in the inside of which is placed a Fuchsia trained on a lesser frame to fit. This has a most artistic appearance, and admirably answers the purpose it is intended for.

We now come to the range of glass, in which the experiment of the noted carrion Vine borders was conducted. The vineries are light, airy, substantial structures. They are 40 feet long each by 18 feet broad. The borders have been entirely renewed. The Vines for superiority of fruit and size of bunches are well entitled to rank amongst the best in England, and as such Mr. Westcott may feel justly proud of them. The borders are large, and consist of good loam; charcoal, lime rubbish, and a liberal addition of bones are used, and they have an annual dressing of bone dust. The following are the varieties planted in these vineries:—Mrs. Pince, Madresfield Court, Foster's Seedling, Golden Champion; this Grape was doing well, magnificent in colour and finish, it being grafted on a Muscat. Here also was the black Muscat grafted on the white. The third vinery contains Golden Champion, Muscat of Alexandria, and Venn's Black Muscat all full and good. The fourth vinery has been planted three years, and consists principally of Black Hamburgh and Dr. Hogg, which were in all respects very satisfactory, and gave promise of abundant future crops. The early vinery and Peach house are in the other kitchen garden, and had both finished off their wood well. For an early white Grape Mr. Westcott prefers Foster's Seedling.

In this kitchen garden are the Asparagus beds, which are 5 feet wide, covered with glass lights on a small span-roofed frame. The alleys are 4 feet broad; these in the spring are filled with fermenting material, the brick linings being pigeon-holed. In this measure the beds never fail in producing a sufficiency of this choice vegetable for the supply of the family. These beds are forced every fourth year, which gives them plenty of time to recover their strength. All kinds of vegetables are well and extensively grown, also Mushrooms, for which a suitable house is provided. Particularly valued amongst the vegetables is Veitch's Purple-top Turnip. Here also are the young men's rooms, arranged with hot and cold baths—an inestimable boon to young men who are exposed to so many vicissitudes of temperature.

In concluding our remarks on these noted gardens it is pleasant to record that Mr. Westcott speaks in the highest terms of the kindness he has received from the Duke and Duchess of Cleveland, who are both liberal patrons of and admirers of horticulture. Her Grace gives some of her spare hours to collecting plants of botanical curiosity, and places them under Mr. Westcott's care. Each department of these gardens bears the stamp of skilled supervision. Mr. Westcott is well known as one of England's best gardeners, he having received much tuition under the late Mr. Barnes of Bicton. Time did not permit us to note all we saw worthy of notice, nor was the day suitable for seeing Raby to advantage; still we saw much to admire, and the courtesy and hospitality of Mr. Westcott and his family we shall not soon forget.—B. COWAN, *Awrell Park*.

EARLY-FLOWERING CHRYSANTHEMUMS.

MR. W. TAYLOR remarked on page 253, in reference to early-flowering Chrysanthemums, that if grown healthily and well they will prove "real gardeners' friends, as they bridge over the time between the early autumn frosts and the regular Chrysanthemum season." There can be no doubt as to the great value of early-flowering Chrysanthemums for border decoration; indeed over a great extent of country they are the only varieties that can be relied on for producing an outdoor display; rains, frosts, and adverse weather generally occurring, which mar the beauty of the later blooms. Last year Mr. Freeman spoke approvingly of the early-blooming varieties, and submitted an excellent list of those that had succeeded in his garden in Yorkshire, requesting also the experience of others by which he might be able to extend his collection. Perhaps nowhere in England do better facilities exist for noting the relative merits of the flowers in question than at Swanley, where Mr. Cannell has nearly or quite five hundred varieties planted permanently in the open ground. During the first week in October the following amongst other varieties were in full bloom, and, seeing them, none could dispute their value for border decoration:—

Precocité.—Well described by Mr. Freeman as a "beautiful jonquil yellow;" flowers 2 inches across. A valuable variety.

Early Cassy.—Rosy lilac, faintly tinted with yellow in the centre; flowers 1½ inch across, of excellent form. Very free.

Adrastris.—Purplish lilac, hybrid Pompon; flowers 2½ inches across. Effective.

Gold Button.—Yellow; flowers small and button-like, not exceeding half an inch in diameter. A little gem. Free.

Mulle. Alphonse Dupré.—Hybrid Pompon; white, feathery, free, and early. Useful.

Lustre.—Pompon; small flower, very pale lilac. Free.

Lucinda.—Pinkish lilac, deeper in colour than the preceding variety, and a better formed flower. Good.

Madame Damage.—Clear bright yellow. Free, early, and useful.

Madame Pecoral.—Dark rosy purple. Very double, free, and fine.

Chrome Stella.—Pale chestnut; petals margined and tipped with yellow; flowers small and exquisitely formed. Distinct and attractive.

Delphine Cabouche.—Reddish mauve; flowers small, petals rather cupped. Distinct.

Illustration.—Pale lavender pink; early. A well-known useful variety.

Frederic Pelé.—Bronze red; flowers 1½ inch in diameter, and of excellent form. A valuable dark variety.

Little Bob.—A little brighter than the preceding variety, and the flowers smaller. Dwarf and free.

Nanum.—Creamy bluish; flowers 2½ inches in diameter, feathered. Free and very useful.

Others might be added, but those named are distinctly early—just expanding into full beauty when many other flowers are fading, and attractively "bridging over" the notoriously dull time referred to by Mr. Taylor. These Chrysanthemums afford cut flowers in profusion for indoor decoration, and render the gardens cheerful during the too often cheerless month of October, and hence they are eminently worthy of cultivation.—J. W.

GRAPES NOT COLOURING.

It would be interesting to know from different readers of the Journal if Grapes have coloured worse this year than they are in the habit of doing. One house of Black Hamburgs, which ripened with me in July, did not colour so well as I would have liked to have seen them. The crop was quite a full one but not heavy, and I was rather at a loss to know why every berry did not become jet black. Since then one or two later bunches produced by the laterals have coloured perfectly, and I am inclined to think the intense hot weather we had in July must have been unsuitable for Grapes colouring to perfection.

"R. P. B.," a good gardener, writing to the October number of the "Gardener" from East Lothian on this matter, states that Grapes colouring in that neighbourhood about that time failed to blacken, even in the case of very light crops. It is well known that too high a temperature is as bad for fruit colouring as a too low one, and if we could bear of two or three sure instances of Grapes failing to colour owing to very hot weather and too high a temperature, no doubt it would do much to prevent a similar result in the future, if the precaution was taken to form a shading of limewash, or something having the same effect, over the glass of vineries in which Grapes were colouring during excessively hot weather. As to the importance of trying to do something there can be no doubt, because Grapes not colouring is a more serious affair than many think who only consider it as detracting from their looks, for it impairs their keeping properties as well, and this often leads to serious loss.—A KITCHEN GARDENER.

ROSE SUCCESSION.

FOR one exhibitor amongst your readers there are, perhaps, ten thousand who are interested rosarians in respect to the production or enjoyment of their favourite flower; therefore I have thought it may be useful to those who seek the longest extension of that pleasure to supplement by my experience the valuable letter of "WYLD SAVAGE," in which he told of what he had seen at this late season at Cheshunt or elsewhere. I have about five hundred standard Roses lining the walks nearly a quarter of a mile in length in my high-walled garden, arranged under the auspices of my friend Reynolds Hole, with a view to their protection from wind. They have good loamy soil, and are annually mulched and cared for. The following have given me great and continuous satisfaction.

Charles Lefebvre, Mdle. Eugénie Verdier, John Hopper, Général Jacqueminot, Jules Margottin, Abel Grand, Jean Cherpin, La France, Maurice Bernardin, Victor Verdier, King's Acre, Madame Falcot, Souvenir de la Malmaison, Madame Domage, Comtesse d'Oxford, Sénateur Vaisse, Anna Alexieff, Beauty of Waltham, Marguerite de St. Amand, Marie Baumann, Gloire de Dijon, Marquise de Castellane, Leopold I., Dr. Andry, Madame Margottin, Annie Wood, Souvenir de Comte Cavour, Madame Caillat, Madame Charles Wood, Madame Crapet, Duchesse de Caylus, Prince Camille de Rohan, Miss Pole, François Louvat, Louisa Wood, Gloire de Bordeaux, François Arago, Exposition de Brie, John Gris, Safrano, Vicomtesse de Cazes, Lord Napier, Impératrice Charlotte, Duchesse d'Aoste, Pierre Notting, Louis Van Houtte, Madame Boutin, Sœur des Anges, Fisher Holmes, Vicomte Vigier, Monsieur Noman, Mrs. Bosanquet, Baronne de Rothschild, Céline Forestier, Dupuy Jamain, Belle de Bourg-la-Reine, Belle Lyonnaise, Ophirie, Madame Thérèse Levet, Duke of Edinburgh, Olivier Delhomme, Clotilde Rolland, Centifolia Rosea, Etienne Levet, Caroline de Sansal, Maréchal Niel, Pauline Talabot, W. Jessie, Madame de Cambacères, Sir J. Paxton, and Aimée Vibert.

Before the thunderstorm of September 30th all the above-named were either in full bloom or in well-developed buds, and therefore worthy of cultivation; as, of course, almost all were in unusual beauty in June, when many were abundant in flower beyond any year in my experience of thirty years. Last year, however, my Maréchal Niel produced a succession of three hundred good blooms, whereas the June rains this year were fatal to them.—A PUPIL OF REYNOLDS HOLE.

HARDY PERENNIALS AT WORCESTER.

IN a hasty run through Mr. Richard Smith's vast nurseries at Worcester a few days ago I noticed the following hardy herbaceous plants in flower as being particularly striking at this late period—viz., *Pyrethrum serotinum* (uliginosum), 5 feet, large, white, with yellow disc; *Silphium terebintha*, 6 feet, yellow, Composite with slender stem and Dock-like foliage; *Helianthus decapetalus*, 5 feet, all suitable for a shrubbery or back of border. *Rudbeckia hirta*, 1 foot 6 inches, yellow, blackish disc; *Asters amelloides*, longifolius, formosus, and grandiflorus; *Anemones japonica* and *vitifolia* (Honorine Jobert) in large clumps, both magnificent; *Salvia angustifolia*, tall, with small bright blue flower; *Catananche bicolor*, a free-flowering, purple, Everlasting-like Composite; *Caltha palustris monstrosa*, *Verbena venosa*, *Plumbago Larpentæ*, and *Oenothera taraxacifolia* (dwarf); *Delphiniums* William Pfitzer, double brilliant blue; *M. le Bihan*, tall, double, large, purplish blue; *Keteleeri*, Barlowii, and Palmerston, light blue, with white eye. All very attractive. *Pentstemons* Horace Vernet, Cicerone, Scarlet Gem, Lilac Gem, Delicata, Warrior, Narcissus, Racine; *Phloxes* Coccinea and Snowball (dwarf white), and many other showy varieties in full flower. Two good showy plants with variegated foliage at this season are *Ægopodium Podagraria* and *Lilium candidum foliis variegatis*, of which Mr. Smith appears to possess two distinct varieties.

I regret that the short time allowed me between the trains did not permit of more than a very cursory glance through this extensive place, where everything horticultural seems to be grown, and the whole district constitutes Mr. Smith's nursery, which is traversed in several directions by turnpikes, highways, and public footpaths, as well as by lengthy private drives ribboned on each side by the choicest specimen trees and shrubs in the most perfect health. The principal drive leading from the entrance in a straight line must be nearly a mile in length, and at the extreme end of this I found the Roses covering many acres, and anent which I will send you the few notes I was enabled to make. I hope this may not be the last I shall see of Mr. Smith's great and instructive plant manufactory, where, notwithstanding the vast extent, everything seems order, neatness, and regularity; but a whole week might be profitably spent over a careful examination of its horticultural treasures.—T. LAXTON, Bedford.

NOTES ON VILLA AND SUBURBAN GARDENING.

WE are reminded of the fast approach of winter by the falling of the leaves, which are now becoming troublesome and entail a great amount of extra labour to have them sufficiently swept up. Where Oak trees abound and acorns are plentiful these should be swept off the paths every morning, as they are most uncomfortable to walk upon. But the beautiful weather which we are now enjoying in the south is most welcome; and October so far,

instead of robbing the garden in one single night of all its beauty, has added to its effect, and is further most favourable for ripening the late summer growths of fruit and other trees which were made during the wet weather in September.

Flower beds are not yet divested of their beauty; but it is not safe to allow any plants that are wanted for next year's supply to stay out after this time, for frost may come suddenly and kill many of the tender plants. *Calceolarias* and *Verbenas* may yet be propagated from cuttings; in fact they often thrive better inserted now than when taken off earlier. A cold frame is the best place that can be had for propagating a stock of *Calceolarias*. Short stubby cuttings should be taken off and inserted about 2 or 3 inches apart in light sandy soil. They should have a gentle watering to cause the soil to become firm around them, and should be kept close for a few weeks, when air may be given them if the weather permits. *Verbena* cuttings are best placed in pans, pots, or boxes, and these in a close frame or pit.

As soon as the summer flowers are destroyed they should be taken away, and the beds be manured and dug in readiness to receive the spring bedding plants. No time must be lost for the planting of them, as it is on the earliness of planting that success in a great measure depends. Pansies, Polyanthuses, Daisies, *Silenes*, *Myosotis*, Wallflowers both single and double, and such-like spring-blooming plants, are the most suitable. Designs may be worked out as is done with the summer bedding plants; and most of the hardy plants named when fully out are indeed very showy. Care must be taken to plant the tallest growers in the centre of the beds or designs, reserving the dwarf plants for the edges of the beds. Wallflowers, *Myosotis*, and *Silenes* are all suitable for the centres of the beds or for back lines, while Daisies and Polyanthuses make the best edging plants. They will all do very well planted from 6 to 8 inches apart in accordance with the strength of the plants.

KITCHEN GARDEN.—*Asparagus* beds may be cleared of their haulm, which is now ripe. Celery requires to be earthed up, choosing fine dry days for the operation. Our plan is to place a tie around each plant, and then to bank up the soil as lightly as possible. Carrots are now at maturity, and should be taken up and stored for the winter in shallow heaps, with a layer of dry sand placed between and around them. Look over Onions and Potatoes that have been already stored for some time. We have grave complaints about the Potato disease, which in many cases was not perceivable until after the tubers had been stored for some days. Cauliflowers sown in August as recommended will require pricking out under handlights, in cold frames, or at the foot of a warm south wall; or if plenty of room and pots are at disposal some of the plants may be potted, than which there is no better mode of securing early produce. Plant Cabbage plants about 18 inches apart for the principal or main crops, choosing the strongest plants. We frequently plant them a foot apart every way, and in the spring take out every other row and every other plant, which when other vegetables are scarce we find very useful. We also prefer some of the smaller-growing sorts, as Wheeler's Imperial, Cocoa-nut, and Carter's Heartwell for early consumption. Plant Lettuces under handlights and in warm situations; also place a quantity of nearly full-grown plants in frames close together for use during the early winter months. They should be lifted with a ball of soil and carefully inserted again. Old beds that have contained Cucumbers and Melons are very suitable for receiving them. Spinach is now abundant and only requires to be kept free from weeds and thinned out, using the thinnings for cooking purposes. Any fruit yet remaining out should be gathered at once. Apples have coloured unusually well owing to the bright and dry weather.

GREENHOUSES.—These structures will now require attention. Everything must be placed under protection as rapidly as possible. Geraniums, which have been struck or old plants lifted, also all Azaleas or other hardwooded plants that have been placed out of doors during summer, must have their pots washed, and be placed under shelter forthwith. Attention must be given to preparing a stock of various plants for forcing purposes—Lily of the Valley, *Dielytras*, *Spireas*, *Callas*, &c. *Schizostylis* that have been planted out in the reserve garden for the summer must be lifted at once, potted, and placed under protection, and the plants will, if not allowed to flag, throw up at once an abundance of scarlet *Gladiolus*-like blooms. Dutch bulbs and hardy forced shrubs will make our conservatories gay after the *Chrysanthemums* have done blooming. The fine weather of late has been highly beneficial to *Chrysanthemums*, but it will not be safe to allow them to remain out of doors any longer, or the frost may injure some of the outside petals. We have had the pleasure of seeing several collections, and anticipate that there will be a splendid display this autumn. The plants are early, and the blooms will expand naturally—the very reverse to last season.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Storing Roots.—The main crop of Beet, Carrots, Scorzonera, and Salsafy, and a portion of the Parsnips should now be taken up

and stored for winter use. Avoid trimming the roots too closely or placing them in large piles, which causes fermentation, and the roots will either rot or grow. They are best put up in narrow stacks packed in dry sand in a cool moist place. In lifting and trimming Beet care is necessary to avoid damage, otherwise the colour will be damaged.

Plant out if not already done the principal crop of Cabbages for spring and early summer use. If there is likely to be a scarcity of greens in spring, or Coleworts are in request at that time, plant strong plants on a warm border 1 foot apart. They, if the winter be mild, come in early and are very useful. Tomatoes should be cut in clusters and hung in a vinery or other dry rather warm house to bring the fruit to maturity. Remove all yellow leaves from Savoy and other descriptions of winter greens so as to expose the stems to harden them for the winter. Cauliflowers should be gone over frequently, breaking the leaves over the heads of those most advanced, which will keep them clean and white, and be a protection against sudden frosts. This vegetable has been an uncertain crop this season, failing in many places, and the crops coming in in bad succession. Early London, Walcheren, and Veitch's Autumn Giant have given us an admirable succession; of the latter we are cutting heads of fine quality. Mustard and Cress, sow as required in gentle heat. Take advantage of every opportunity to earth-up Celery, as after this time it is liable to suffer from frost. Have protective material at hand to cover Endive and Lettuces in case of sudden frost.

FRUIT GARDEN.

Last week we gave a selection of fruits for walls; we now submit some good varieties for general garden and orchard planting.

Kitchen Apples.—Kewick Codlin, Stirling Castle, Worcester Pearmain, Lord Suffield, Hawthornden, Manks Codlin, Alexander, Lucombe's Seedling, Cox's Pomona, Peasgood Nonsuch, Cellini, Golden Noble, Warner's King, Rymer, Forge, Yorkshire Greening, Norfolk Bearer, Blenheim Orange, Lewis's Incomparable, Lady Henniker, Kentish Fillbasket, Tower of Glamis, Galloway Pippin, Small's Admirable, Betty Geeson, Northern Greening, Dumelow's Seedling, Bedfordshire Foundling, Alfriston, Royal Pearmain, Royal Russet, Striped Beefing, Hambledon Deux Ans, Winter Majeting, Norfolk Beefing, and Annie Elizabeth; some being useful for dessert. *Dessert Apples.*—White Joanetting, Irish Peach, Kerry Pippin, King of the Pippins, Cox's Orange Pippin, Court of Wick, Mother, Ribston Pippin, Mannington Pearmain, Claygate Pearmain, Margil, Golden Pippin, Kedleston Pippin, Reineette du Canada, Wyken Pippin, Lord Burghley, Old Nonpareil, Dutch Mignonne, Cockle Pippin, Pitmaston Nonpareil, Syke House Russet, Golden Harvey, Court-Pendu-Plat, Duke of Devonshire, and Sturmer Pippin.

Dessert Plums.—Early Mirabelle, July Green Gage, De Montfort, Oullins Golden, Green Gage, Kirke's, Jefferson, Transparent Gage, Golden Esperen, Purple Gage, Coe's Golden Drop, Reine Claude de Bayay, Ickworth Impératrice, and Late Rivers. *Cooking Plums.*—Early Prolific, Prince Englebert, Mitchelson's, Early Orleans, Gisborne's, Diamond, Prince of Wales, Victoria, Pond's Seedling, White Magnum Bonum, Autumn Compôte, Belle de Septembre, and Wyedale. *Damson.*—Crittenden's, sometimes called Farleigh. *Bullace.*—New Large (Essex) White.

Cherries.—Early Prolific, Knight's Early Black, May Duke, Elton, Buttner's Black Heart, Bigarreau Napoleon, White Heart, Kentish, and Morello are suitable for orchards. Walls are too valuable to be occupied with other than the choicest description of fruits.

FRUIT HOUSES.

Cucumbers.—Plant out the winter fruiters forthwith on raised hillocks as near the glass as possible. Those not having the convenience of a Cucumber house may secure fair supplies of winter fruit by growing the plants in pots or boxes, training the growths near the glass over the pathways in fruiting Pine stoves or other heated structures. Be careful not to overcrop or allow the fruit to remain too long, removing all deformed fruit in a young state. Maintain a night temperature of 70°, 5° less in the morning, 75° by day up to 85° with sun, admitting a little air at the top of the house at every favourable opportunity. The evaporation troughs should still be charged with liquid manure, and the floors damped at 8 A.M. and 4 P.M., dispensing with the syringe over the plants. Reduce the supply of water at the roots, but not to an extent to cause flagging.

Melons.—The end of the Melon season is approaching, especially as regards those grown in pits or frames, though any fruit that were cut with a goodly portion of stem will keep for a considerable time; but they should be kept in a warm house to thoroughly ripen before sending them to table. In houses, however, the supply will be kept up for some time longer. Sufficient moisture will be secured to the latest crop by damping in the morning and again early in the afternoon, affording water to the roots moderately—a supply once a week will be sufficient. All superfluous laterals must be kept cut out so as to afford the principal foliage the benefit of the autumn sun. Plants with fruits approaching ripeness should be kept dry, and a brisk heat maintained with rather free ventilation; the temperature keep at 70° at night, 5° lower in the morning, 75° by day, rising to 85° with sun, afford-

ing a little air at the upper part of the roof whenever the weather is favourable.

Figs.—Trees in pots to be forced early and now placed out of doors to mature the wood require to be taken under cover to keep them from the autumn rains. Any thinning of the shoots or cutting-back must now be done, and the surface dressing be completed. They should be kept in a cool airy house with plenty of air. Trees permanently planted out will in the late house soon be shedding their leaves, and must be kept dry with all the air possible. Any planting of fresh kinds or the making of new borders should be done as soon as the leaves have fallen, top-dressing also being done when the leaves have fallen.

Pines.—Plants on which fruit is now showing will afford fruit at a time when it is scarce and dear; therefore such plants should be afforded the best position in the fruiting department. Continue 70° as the minimum night temperature, 75° artificially by day, up to 85° or 90° with sun, closing at 85°, and maintain a growing atmosphere by sprinkling the pathways when their surfaces have become dry, occasionally sprinkling the plants also on fine bright afternoons. Maintain the bottom heat steady at 85° to 90°. The plants should be looked over about once a week, and if any require water supply it copiously at about the same temperature as that of the bed. Avoid overwatering the fruiters, as it causes the fruit when cut to be black at the centre. There is not always a certainty of Queens starting into fruit early in the season, but they do so readily by affording comparative rest after having made a good growth. Plants intended to show fruit early in the year should be kept at about 65° in the daytime by artificial means, 60° at night, ventilating at 70°, liberally above that, closing at 70°, allowing the bottom heat to fall to 70° but gradually. Water the plants only when absolutely necessary, very little will be required for those in beds of fermenting materials. Abstain also from sprinklings unless the houses are unusually dry.

Orchard House.—The ventilators should still be kept open by night as well as by day unless frost be apprehended, when they should be closed. Syringing will have been discontinued, or should only be resorted to to cleanse the foliage of insects. The watering must be reduced, but the soil must not be allowed to affect the foliage by becoming too dry, overwatering being equally injurious. Most fruits will be gathered, exceptions are the late Peaches and Plums. They will require moderate waterings, and should be together at an end of the house, so that they can be kept warmer by closing the ventilators at that part by night and ventilating moderately in the day, allowing the temperature to rise to 75° or 80° by day in bright weather, and if it fall to 50° or less it will tend to ripen the wood, which is of the greatest consequence. Remove, therefore, all superfluous shoots, so as to admit light and air to the remaining shoots and spurs to the fullest extent. So soon as the fruit is all gathered from the late Peaches and Plums the trees should have a good syringing to clear off any insects or dust. Fig trees not having the second crop ripe should be placed in a house with a gentle heat to ripen off. In many instances the trees will be shedding their leaves, those of Peaches and Nectarines retaining their green colour in some instances when fully ripe. They may be removed by drawing the shoots gently through the hand; but if ventilation be duly attended to this will hardly be necessary, as the air passing through will bring them down fast enough when ripe. Compost for surface-dressing should be had under cover at once, as it is best used moderately dry. Turfy loam, a fourth part of well-decayed manure, and a twelfth part of road scrapings or old mortar rubbish, with a sprinkling of half-inch bones, form a suitable mixture. All fruit trees in pots placed outdoors should now be surfaced, or as soon as the majority of the leaves have fallen, scraping out the soil to the depth of 2 or 3 inches or more, according to the size of the pots, replacing with fresh soil and ramming it hard. A good watering may then be given, the pots plunged in ashes to the rim, and the surface of the pots covered with about 3 inches of litter or cocoa refuse. Some consider the autumn rains have a prejudicial effect upon the roots. Such is not our experience. Pears, Plums, Cherries, also Apricots and Peaches and Nectarines, are just as well outside as in after the wood is thoroughly ripe. They are all upon hardy stocks, which suffer nothing from the autumn rains. Keeping the trees in the house dry at the roots often results in the buds being cast when the soil is moistened, the injurious effects of the drying system being also felt when the fruit is in its early stages, dropping instead of swelling, simply because there are no active rootlets to cater for them. When the trees are placed outside the house will be set at liberty for Chrysanthemums, Tea Roses, &c.

TRADE CATALOGUES RECEIVED.

Charles Turner, Royal Nurseries, Slough.—*Catalogue of Roses, Fruit Trees, Shrubs, Coniferae, &c.*

Thomas Rivers & Son, Sawbridgeworth.—*Catalogue of Fruit Trees.*

Osborn & Sons, Fulham.—*Select List of Plants for Forcing and Winter Blooming.*

Cranston & Co., King's Acre, Hereford.—*Catalogue of Fruit Forest, and Ornamental Trees, Conifers, &c.; also Catalogue of Roses.*

Thomas S. Ware, Hale Farm Nurseries, Tottenham, London.—*Catalogue of Florists' Flowers, Climbing Plants, and Roses.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (*A New Subscriber*).—The price of Dr. Hogg's "Fruit Manual" is 10s. 6d. Plants will be named next week. (*A Lady*).—Our "Garden Manual" contains the information you require and more besides, price 1s. 6d.

BACK NUMBERS (*J. B.*).—If you state the numbers you require we will inform you if they are in print; or if you order them through a bookseller he will supply such that he can obtain at 3d. each.

CLIMBING PLANTS (*C. A. C.*).—Notes on these will shortly appear.

PRESERVING FRUIT WHOLE (*F. J., Blackrock*).—The proper way to preserve fruit as indicated on page 259 is to place the jar of water in the centre of a box, the sulphur at one side of this jar and the Apples or any other kind of fruit at the other side. The fruit may be placed in a plate or basket, the latter I should say being the best, as the fumes would pass freely through to all parts of the fruit. The fruit is said to be preserved when the sulphur is all consumed; but should this not be found to answer, anyone could try the experiment of allowing it to remain in half an hour longer; when taken out the fruit may be stored away as if it had been gathered off the tree. —A KITCHEN GARDENER.

LAWN MOWER (*Daivy*).—Any one of those advertised in our columns would suit you. Write to the maker and state what you need.

FRUIT TREES FOR NORTH WALL (*Amateur*).—In "Work for the Week" in the last issue of the Journal you will find under the heading of select fruits for various aspects the information you require. We are unable to answer your other query relative to Mr. Beard.

SELECTION OF FRUIT TREES (*C. R.*).—If you consult "Work for the Week" in our last issue and also in the current number we think you will obtain precisely the information you require.

ALPINES (*Jean*).—Strictly speaking they are plants from alpine—that is, mountainous districts, usually requiring the protection of a frame in winter, because we cannot secure to them their natural covering of snow during that season. Gardeners, however, include in their lists of Alpines a great diversity of small plants difficult of cultivation. Many of them are best grown in pots, and require light sandy loam and peat, with abundant drainage.

EUCALYPTUS GLOBULUS (*W. D.*).—There is nothing unusual in the change of foliage alluded to. The change is natural and occurs regularly when the trees attain to the age and size that yours are—often, indeed, on trees about three years old. The leaves sent are very fine, and your tree is in excellent health. It is unusual for this tree to flower so far north as Darlington.

STOCKS FOR FRUIT TREES (*F. C.*).—Where the stocks are not specified it is implied that the sorts will thrive equally well on all stocks usually employed by nurserymen. When trees are ordered and the purpose they are intended for is stated, nurserymen generally take care that trees are sent best suited for that purpose. If dwarf trees and early fruitfulness are the desiderata, then Apple trees worked on the Paradise stock, and Pears on the Quince, will usually be sent; but if large orchard trees are wanted, then trees will be sent that have been worked on Crab and Pear stocks respectively.

DESIGN FOR A FLOWER GARDEN (*H. O.*).—If you will send us a rough outline on paper of your lawn, or give its length and breadth in feet, and if it is level or otherwise, we may be able to assist you.

ASPECT FOR GREENHOUSE (*B. H., Birmingham*).—A greenhouse having an aspect which the sun does not reach until 12.30 would be well adapted for the cultivation of decorative plants in summer, also for such plants as Calceolarias, Cinerarias, Camellias, Azaleas, bulbs, &c., in spring; but would not be suitable for Heaths and slender-growing hardwooded plants generally, which require abundance of light. With care in watering and efficient heating appliances ordinary greenhouse and bedding plants, such as Geraniums, &c., may be safely wintered in such a house, but one-third more of piping would be required than for a house having a south aspect. If we had not a better aspect than the one named we should not hesitate erecting a greenhouse, and should grow plants best adapted for such a structure.

ROSES FOR EXPOSED POSITION (*X. Y. Z.*).—If the site is very cold and bleak we doubt if the two Tea Roses you name, Catherine Mermet and Souvenir d'un Ami, will succeed. You may, however, try them as you live in the south. The other varieties included in your list are hardy. An excellent selection of Roses for an exposed situation is given on page 281 of last week's Journal. Order your plants during the present month, and request that they be sent as soon as they are ready for removal. Plant them in good soil immediately on their arrival, but do not prune them till the spring.

GRAPES DECAYED (*J. H.*).—The atmosphere of your house has probably been kept too close and moist, and probably also too cool when the Vines were in bloom, for we perceive the bunches have not set well. There is no remedy for the decay this year. You can only cut out the decayed bunches and keep the atmosphere of the house dry and well ventilated to arrest the decay of others. You do not say whether your Vines are healthy or not. Without knowing something of their condition we cannot advise you as to the best treatment to adopt in future.

PLANTING GRAPE VINES (*A. B.*).—Plant the Vines against open walls in November, and in the greenhouse early in March. Take especial care to shake the soil off the roots, and to spread them out their full length, pressing the fresh soil firmly upon them. Indian Corn should be sown in March.

HYDRANGEAS AFTER FLOWERING (*Sainfield*).—Cut off the flower trusses as soon as they fade. See that the plants growing in the open air have ample space for a full development of that globular outline natural to them and which renders them so ornamental, and no further care is requisite except protection from frost in winter; for as the flowers always come on the tops of the shoots of the previous year, these must be preserved intact or there will be no flowers.

SOIL AND SITUATION FOR THE WELLINGTONIA (*Agricola*).—The best soil for this Conifer is a deep rich loam, and for situation choose any spot where it is somewhat sheltered from high cutting winds, and where it has ample space to grow into a large tree. It requires no special treatment, only prepare a good station for it, plant in November, fasten securely so that it is not blown over by high wind, see that it does not suffer from drought next summer, and afterwards you may leave it to itself. Liquid manure is not necessary.

PLANTS FOR A GREENHOUSE IN WINTER (*A Lady Gardener*).—A temperature of 60° in winter will induce a premature growth in the Vines which you say you have in your greenhouse; it will also be quite 10° too high for Ericas, Epacris, and other hardwooded greenhouse plants. A temperature of 50° would enable you to have more flowers and a longer succession of them. Of Fuchsias for winter blooming take Dominiana, serratifolia, multiflora, and splendens; and of Geraniums of the Zonal class any of the following:—Astarte, Imogen, Mrs. Musters, Lady Sheffield, Lady Eva Campbell, Ethel, President McMahon, Mrs. Wright, Evening Star, Lady W. G. O. Elphinstone, and Vesuvius. The sorts of Violets you require are Victoria Regina, Belle de Chatenay, King of Violets, Queen, Princess Louise, and Giant. You ought also to have such inexpensive plants as Mignonette, Cinerarias, and Chinese Primroses. Some Hyacinths, Tulips, Crocuses, and Snowdrops should also be potted now, plunged in coal ashes out of doors, and brought into the greenhouse in small numbers throughout the winter so as to maintain a steady succession of their gay flowers. Some Myosotis, Delytra spectabilis, and Spiraea japonica might be potted now and placed in the house at once.

CULTURE OF AMARANTHUS HENDERII (*T. Watson*).—Place quite 2 inches of potsherds in the bottom of the seed pan, with a little moss or coarse leaf soil upon them to prevent the fine soil from being washed down among them; fill to within an inch of the top with fine, rich, gritty soil, which press gently down, then sow the seed, water through a fine rose, sprinkle a thin covering of soil over the seed, and place the pan in a brisk hotbed or stove. This should be done in March, and when the plants are large enough to handle prick them singly into warm soil in 3-inch pots, replace in the hotbed near the glass, give air to strengthen the plants on every warm day. Attend closely to watering, repot when necessary, using plenty of drainage and a soil of two parts leaf soil, one of loam, and one of silver sand pressed down firmly with an ample margin at the top for watering. Grow them on briskly in a lively temperature till the plants are sturdy, stout and strong, then remove them to a warm corner of the greenhouse well out of the direct draught from the ventilators, and with ordinary care they will soon bear full exposure to air and continue ornamental throughout the summer.

BOUNDARY FENCE FOR GARDEN (*Amateur*).—We know of no other substitute for a wall than a fence formed of boards. A boarded fence having a south aspect would enable you to grow and ripen such wall fruits as Apricots, Peaches, &c., and would render the border additionally valuable. A practical builder has informed us that the simplest and cheapest mode of erecting a plain fence is to insert posts about 3 inches square firmly into the ground at intervals of 6 to 8 feet, the sides of the posts to be grooved or to have grooves formed by nailing two slips to the posts at intervals a trifle wider than the thickness of the boards. In these grooves the boards are to be slid down precisely in the manner of "door boards" affixed to cottage doors where young children are given to wandering. By this plan the boards are not nailed but can move up and down slightly, as the boards shrink and swell in wet or dry weather. We should have the fence at least 7 feet high.

GOOSEBERRIES, CURRANTS, AND STRAWBERRIES FOR MARKET (*C.*).—*Gooseberries*: Antagonist, white; Crown Bob, red; Farmer's Glory, red; Leader, greenish yellow; Leveller, yellow; Queen of Trumps, greenish white; Keen's Seedling, red; and Red Warrington. *Currants*: Red Dutch and Ruby Castle, red; and White Dutch. *Strawberries*: Vicomtesse Héricart de Thury, President, and Elton.

UTILISING SHADED BORDER (*Thos. Blenkinsop*).—Your piece of ground will only grow such vegetables as suffer in hot weather—namely, Spinach, Lettuces, Turnips, and Cauliflowers, and others of the Brassica family. We should, however, plant it with shrubs, as Rhododendrons, Holly, Box, Berberis aquifolium, B. Darwini, common Laurel, Butcher's Broom, and Periwinkles, which would be more satisfactory than vegetables.

SCREEN FOR ASH PIT (*Jas. Shearer*).—Privet would be the most suitable and quickest growing of evergreens. The Oval-leaved (*Ligustrum ovalifolium*) is the best.

APPLES FOR EXPOSED SITUATION (*Idem*).—*Dessert*: Devonshire Quarrenden, Nonpareil, and Grey Leadington. *Kitchen*: Keswick Codlin, Norfolk Bearer, and Dumelow's Seedling.

MOSS ON TOMBSTONE.—"J. S." wishes to know "What would, at little expense, clear the growth of moss out of the letters inscribed on a freestone tombstone?" Can any of our correspondents oblige us with an answer?

PEAS FOR SUCCESSION (*A Lady*).—Your proposed kinds and times of sowing are good, and will afford a fair supply through the season.

CHIEFHUNT HYBRID ROSE (*R. P.*).—It is a vigorous grower, and would succeed admirably against an east wall. Maréchal Niel would not succeed against a north wall; the wood would not get sufficiently ripened.

AZALEAS ROOT-BOUND (*W. W.*).—The probability is, that if you pot them now the plants will push shoots from the base of the buds and not swell the buds. Defer the potting until the flowering is over, and then shift them into pots a size larger than those they now occupy.

PLANTING VINES (*Idem*).—They are best planted in the spring after growth takes place, but the canes should be cut back now to the length required. Vines that have been fruited in pots are not of much value for planting out, they are a rule not making a good growth as compared with those that have not fruited.

SELECT MELONS (*A Reader*).—Your query will be answered in an early number.

FERN FRONDS BROWN EDGED (*R. P.*).—Such an effect is often caused by a current of cold air. It is not unusual for the fronds to change colour at

this season. Your plant will probably be all right in the spring if you keep it in a healthy state.

WATER CRESS CULTURE (*An Old Subscriber*).—The trenches in which they are grown are so prepared, that, as nearly as possible, a regular depth of 3 or 4 inches of water can be kept up. These trenches are 3 yards broad, and whenever one is to be planted the bottom is made quite firm and slightly sloping, so that the water which flows in at one end may run out at the other. If the bottom of the trench is not sufficiently moist a small body of water is allowed to enter to soften it. The Cresses are then divided into small sets or cuttings, with roots attached to them; and these are placed at the distance of 3 or 4 inches from each other. At the end of five or six days a slight dressing of well-decomposed cow dung is spread over all the plants, and this is pressed down by means of a heavy board, to which a long handle is obliquely fixed. The water is then raised to the depth of 2 or 3 inches, and never higher. Each trench is thus replanted annually, and furnishes twelve crops during the season. In the summer the Cresses are gathered every fifteen or twenty days, but less frequently during winter; care is taken that at each gathering at least a third part of the bed is left untouched, so that neither the roots may be exhausted nor the succeeding gathering delayed. After every cutting a little decayed cow dung, in the proportion of two large barrowfuls to each trench, is spread over the naked plants, and this is beaten down by means of the rammer above mentioned.

ADDRESS.—We have received a very fine Cauliflower and some fruit to name, but have no letter in reference thereto. The address of the sender is necessary for the purpose of our reply.

PEARS DISEASED (*R. F.*).—The tree is evidently suffering from deficient root-action. Dig round the roots, throw out the old soil, and replace it with a rich compost. See if some of the roots have descended into the subsoil and have them cut off, raising the others near the surface.

VERBENAS (*T. G.*).—You should send the flowers to the Secretary, Royal Horticultural Society, South Kensington. They were not in a state to be exhibited when they arrived.

THISTLES (*Very Old Subscriber*).—The Thistle is *Carduus arvensis*, a dreadful pest. The only way to be rid of them is to keep cutting them; and when they are too short to be mown over, to cut them off close to or under the ground with a spud. You will never thoroughly eradicate them. All you can do is to prevent them gaining the mastery. Do not disturb the pasture; merely use the spud.

NAMES OF FRUITS (*Alexander Boyle*).—Gravenstein. (*J. Wilson*).—Van Mons Leon Leclerc. (*F. O. M.*).—1, Golden Noble; 2, Not known. (*L. Cheshire*).—1, Reineette de Canada; 2, Emperor Alexander; 3, Ross Nonpareil; 4, Sykehouse Russet; 5, Summer Golden Pippin; 6, Trumpington. (*W. Fisher*).—Cowanre Red. (*J. P.*).—1, Louise Bonne de Jersey; 2, Reineette de Canada; 3, Not known; 4, Bedfordshire Foundling; 5, Not known; 6, Flanders Pippin. (*A. W. Ayrshire*).—1, Golden Winter Pearmain; 2, Golden Noble; 3, Calville Malinre; 4, Not known; 5, Flower of Kent; 6, Fearn's Pippin. (*A Knutsford Subscriber*).—We believe the large one to be Cellini. The small one is Court of Wick. The Pear we do not know. (*S.*).—Triomphe de Jodoigne. (*Connaught Subscriber*).—We do not know the name of the Grape, never having seen it before. The spotting is singular. (*S. G.*).—1, Fearn's Pippin; 2, Lewis's Incomparable; 3, Joséphine de Malines. (*Dr. Bruce*).—Eyewood. (*Hampden*).—Apples: 1 and 2, Golden Noble; 3, Not known. Pears: 1, Beurre Langelier; 2, Beurre Diel; 3, Suzette de Bay. (*Lancaster*).—Gloria Mundi. (*J. Woodliffe*).—Apples: 1 and 2, Alfriston. Pears: 1, Triomphe de Jodoigne; 2, Van Mons Leon Leclerc.

NAMES OF PLANTS (*Juvenile*).—Hedychium Gardenianum. The other is some variety of Box. (*F. M.*).—We do not name florist's flowers, and the Fern is immature. 2, Is Nertera depressa. (*Jean*).—1, Aster capensis (Agatheae amelloides); 2, Phytolacca decandra. (*W. Minshall*).—Crimum asiaticum or an allied species, but the flower was too withered to determine certainly. (*Cranfordian*).—Lavandula Stæchas. Ferns immature. (*M. H. M.*).—Apparently *Carlina tinctorius*, but the specimen was insufficient. (*W. P.*).—Chrysanthemum segetum.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

THE MANAGEMENT OF HORNED EWES AND LAMBS.

THERE are various breeds of horned sheep in the kingdom, but our purpose at present is to treat of the horned ewes, natives of the counties of Dorset and Somerset, where they are kept in large numbers, and are the chief breeding flocks reared in some of the best and most extensive districts, particularly in the vales of fine grazing and arable farms to be found in both counties. We propose to confine our remarks upon this subject entirely to the management of this stock used for the purpose of producing early lambs for the metropolitan and other markets, for which purpose they are better adapted than any known breed of sheep. We select the present time for our paper upon this subject because this is the period when they are purchased to go into the home counties for the feeding off early root crops; especially are these sheep kept upon the sandy, gravelly, and dry loams in the counties of Hants, Sussex, Surrey, Hertfordshire, and Kent, and they are admitted by all the most experienced and practical graziers in these districts to pay more money with less risk and loss for the feeding of forward turnips, Swedes, &c., than any

other kind of sheep. We would, however, wish it to be particularly noted that we consider the management of this stock and their early lambs as the most difficult of any, and certainly requiring great judgment, experience, and foresight, together with the most careful and diligent superintendence. This breed of sheep are wonderfully improved within the past forty years; for although we have kept them ever since the year 1826 for the especial purpose of producing the earliest and fattest lambs, yet at that time they were an inferior race compared with what they have been since. When first we kept the Dorset ewes, although they would bring a large number of lambs and give an abundance of rich milk, yet they would after fattening their lambs be themselves comparatively poor and lean. Such, however, has been the improvement made in the Dorsets by crossing with the horned stock raised in the best grass districts of Somersetshire, that instead of being reared as formerly almost entirely with regard to milking qualities and their propensity to produce twin lambs, in doing which the shape and fattening quality of the ewes had been very much lost sight of, now we never meet with any of the old speckle-nosed Dorsets, the improved breed prevailing throughout both counties. The flocks differ according to the nature of the soil upon which they are bred and the pains and practical experience bestowed upon them by the breeders, and so particular are some of the best flock masters that they will not breed from a ewe having a black spot upon the nose or eyelid. We have in consequence a breed of splendid animals of beautiful symmetry, and this has been achieved without reducing the milking quality of the ewes, but by adding the valuable capability of fattening during the milking period, so that now when properly cared for both ewes and lambs go to the butcher simultaneously. There have however, been some mistakes made by the improvers of the horned ewes, and particularly in those instances where a single cross with the Leicester ram was used many years ago. This has improved the carcase and outline of the ewes, and given them a quicker aptitude to fatten, but it has ruined the tendency to produce the early lamb, and we have found it very difficult after this cross to induce the ewes to offer to the ram early and well together. It is a great drawback in the case of animals purchased at a high figure to find that they bring their lambs very irregularly—some in October, some in November, and the remainder in December, because we have found that the ewes which drop their lambs in the month of October will be fat when their lambs are sold, but this is not the case with ewes which lamb in December, although they may have all been kept alike and as well as it is possible to feed them. In making purchases of this kind of ewes it is necessary to either attend the fairs where they are sold in Dorset, Somerset, or Weyhill in Hants, or, what is better, to give a commission to a dealer who has been in the habit of attending these fairs, for these early lambing horned ewes are much sought for, and often under offer to former buyers from year to year; therefore a stranger often stands a poor chance of obtaining the best stocks of ewes, unless he takes them from a dealing man who buys on commission and has a connection formed by previous transactions.

We must now refer to the provision and manner of keeping the ewes on their arrival at the home farm, for they will commence dropping their lambs soon after they arrive, it being the practice only to put the rams with the ewes so that no lambs shall fall until a few days after the usual time of selling them. When making provision for the keeping of the pregnant ewes we generally sow Italian rye grass in the wheat in the month of March, which will show itself after harvest and give a quick succession of food for the ewes, and when folded off it will afterwards afford good pasture until Christmas. This is not only the healthiest for in-lamb ewes, but it enables them to give the largest quantity of the richest milk, so much so that we have known instances of ewes whilst suckling two lambs give half a pint of milk daily more than the lambs could take, for we always relieve the ewe's udders every day if distended, in order to prevent any inflammation in the udder, which often endangers the life of the ewe; besides

which, when milk accumulates in the udder it becomes not only distasteful to the lambs, but produces disease in them and cripples them in their joints like rheumatism, from which they never entirely recover. In order that the shepherd may properly attend to these matters we always have a catch coop in the field, so that the ewes and lambs may be examined once a day, and after they are accustomed to it they will walk into the coop at the call of the shepherd without being driven by a dog; indeed, for a long series of years we never would allow a dog in attendance upon the shepherd, as we know they are a fruitful source of disaster amongst ewes and lambs in various ways, and particularly whilst the ewes are heavy with lamb. A constant change of food is requisite for the ewes, for we find that the exercise consequent upon change of food and moving from field to field advantageous, gentle and regular exercise being essential to healthy pregnancy. We do not like to turn in-lamb ewes into luxuriant clover fields, and there to remain without change until they drop their lambs. This is too lazy a life for them, and is often the cause of their yearning dead lambs. Nor do we approve, when grass is abundant, of giving this sort of ewes before lambing any oilcake, as it only flushes the milk injuriously and inconveniently at lambing time. We prefer to keep the ewes rather short of grass until the lambs can take all the milk, which they can do generally at about a fortnight old, except in the case of twin lambs, in which case, after the lambs are a few days old, the ewes cannot be too liberally fed. Whilst the lambs are young and before they begin to eat, the ewes may be put into the best young clover during the day; but this is cold bad lying for the lambs at night time, for we often get night frosts. We therefore always remove them into the wheat stubbles at night, which is much warmer lying for them, and prevents the lambs being chilled and often crippled with rheumatism. As soon as the lambs begin to eat, which they will generally do at about three weeks old, although they may not be required to enter upon root-feeding on account of the abundance of grass, yet they should have a fold in the grass field, with a lamb gate so that they may go into it apart from the ewes. This will learn them to feed in advance of the ewes when they enter upon root-feeding, and a trough of food such as it is intended to give them when upon root-feeding should be placed in the fold in order that they may be taught and induced to eat artificial food at the earliest period.

(To be continued.)

WORK ON THE HOME FARM.

Horse Labour is now applied chiefly to the preparation of the land for wheat. The late heavy rains have stopped the autumn tillage in forwarding the land for next year's root crops; therefore if the vetches, rye, trifolium, &c., are all sown, the laying-out of dung upon the clover lea will be proceeding, and as fast as it is spread the ploughing and pressing will be done. Upon some difficult heavy land, where it has been properly tilled and prepared, the drilling of wheat should be done, the sooner the better, as it is none too soon for strong cold land; but the season being still early two bushels of seed per acre will be a sufficient quantity. If the land lies in small ridges the drilling should be done so as to have no seed in the furrows, and these should be struck out with the double mould board plough. Upon all land subject to injurious weeds the wheat should be drilled at 12 inches apart if the land is well manured. If, however, the land is not in good condition the distance between the rows of wheat may be 9 inches, so that in either case the land may be horse-hoed in the spring between the rows. Lifting potatoes must now be continued, and generally speaking one strong horse will be sufficient attached to a potato-lifting plough, and on any light and dry soil this is the most economical plan of taking up the crop; upon heavy land, however, after the autumn rains commence it will be necessary to use more power, and often compulsory to dig them with the prong. Still, in dry land the potato plough makes good work, and throws out the most of the tubers ready to be collected by women or boys, after which the lifting drag made by Howard does capital work, and will leave scarcely any tubers in the ground. The grazing farms are now stocked with sheep or are fast being so; and it is important, as the lameness arising from foot rot and the epidemic foot complaint prevails so much, or at least has done so for many years, the shepherds must pay particular attention, so that at the first outbreak, which usually occurs after heavy rains, they may be prepared with remedies, for it is said a stitch in time saves nine. So it is with the lameness in sheep, for when attended to at the first outbreak it is more easily kept under control. The animals only require to be looked over daily, and when they show lameness they are dressed the second day. Our remedy being complete, and one which we have used with uniform success for upwards of forty years, only reduces it to a matter of daily attention. We give our recipe for the foot rot or epidemic lameness, also the luer which occurs above the hoof. Take 3 ozs. of nitre, 8 ozs. blue vitriol, and 3 ozs. of gunpowder reduced to a very fine powder, to be well mixed with 8 ozs. of hog lard, it will then keep for use. It must, however, be borne in mind that no remedy can be effectual unless applied at the proper time and manner. On the second

day after the attack the foot between the hoofs will show an irritable reddened surface, and often with inflammatory bladders. These must be broken and the remedy rubbed in by the finger, and the animal allowed to stand upon dry straw for two hours after the application. By this plan the lameness has not injured our stock either of ewes and lambs or wether sheep; but in case the disease is allowed to go on without attention is a ruinous matter, and often produces greater losses than all the cost of cake-feeding. Many farmers object to the expense of constant attention; but let us suppose an extreme, and that by regular attention it employed one man his whole time; the week's wages are nothing as compared with the loss sustained by even a small flock of sheep, much less a large one. The men and women, too, will now be employed in taking up and storing the mangold and early-sown Swedes; and in case it is not convenient to take the mangold to a large heap they may be advantageously put into heaps, clearing the land about ten yards each way from the centre, and then cover with straw and earth, there to remain until a convenient season; but this is only recommended when the ground is too wet for carting away the roots, or when the horses are busy in wheat-sowing or otherwise. We sometimes get this work done by the acre when labourers are scarce, because women and boys are able to assist in such cases. The dairy cows may now receive cabbages upon the pasture, which is a clean way of feeding; but as soon as they lie in at night they should have them in their mangers. It is at this time of year especially requisite that all the animals on the home farm should have access to rock salt, where they can lick it when inclined.

AGRICULTURAL HALL POULTRY SHOW.

THE galleries of the Agricultural Hall are admirable for a poultry show—at least for the spectators of one. We suspect, and indeed heard, that the atmosphere at night was both disagreeable and prejudicial to the birds from the fumes of the gas below, which naturally rise. Poultry and Pigeon fanciers are certainly among the number of those who must long for the perfection of the new invention by which buildings are more easily to be lighted by the electric light. The poultry entries numbered nearly a thousand, and as in the majority of classes the birds were shown in pairs, the Exhibition was by far the largest one of chickens that has been seen this year. Considering that little over three-quarters of the year has run we thought it a wonderful Show, having regard to the strength and maturity of the exhibits. The art of producing size and mature development in birds of the year has certainly been mastered by many through the attention bestowed these late years upon poultry. We were pleased, too, to see hardly any such specimens as those which in other years have looked as if they had seen a New Year's day. The birds seemed well fed and attended to, and were supplied with green food.

Dorkings.—The Darks were both better of their kind and forwarder than either of the other kinds. The cup cockerel is a monster with fine frame and good comb. He seemed on the second day of the Show to have been fighting and had lost most of his tail; his feet are not good. Second capital in colour and form, the Hemel Hempstead winner; his comb had, however, lately gone over. Third a good and large cockerel, but with a badly twisted comb. Fourth a very leggy bird, quite like a Malay. Mr. Lingwood showed a massive and well-shaped a cockerel as is often seen, but with toes already much swollen. Two younger cockerels struck us as being good and promising and worthy of notice—viz., Nos. 8 (Darby) and 19 (Crewe). The pullets were a capital class of twenty-three. We have never seen so fine and forward a lot in October, though we were sorry to observe that many had a fattened-up look. First not so large as some others, but a beautiful pullet all round; we think she held the same position at Hemel Hempstead. Second a fine pullet much to our fancy. She has some silver in neck hackle and a lighter breast than some judges would like, but we always think it wrong to balance these small points of feather against real Dorking form. Third capital in shape and colour; we liked her as much as any in the class; she certainly has a sixth toe nail on one foot, but this is a small defect. The fourth had the best white feet in the class. Many others would win in an ordinary class. The cup Silver-Grey cockerel and pullet are very fine, especially the latter. There was no other really good pen in the class; wry tails seemed quite the rule and not the exception in the cockerels. In the second pen was a horribly wry-tailed cockerel with yellow hackles; we much preferred the third pen. Whites were very fair. We quite failed to see the *rationale* of the awards. In the first pen the cockerel was weedy and backward. The second cockerel was better, but squirrel-tailed. The third very yellow. In the five-guinea Selling class a good pair of Darks were first and fair Whites third.

Cochins.—We do not think Buff Cochins are this year up to the average of some years; at least, though we see individually fine specimens we do not see well matched pairs. The cup went to a remarkable pair of Lady Gwydyr's. The cockerel is a grand Cinnamon, and we are always glad to see birds of this hue winning when good in form; the colour of his hackles is quite lovely,

more really golden than can be seen on really Buff birds. His mate was a capitally shaped pullet, but in colour did not the least match him, being of a lemon-buff tint, beautiful in itself but not suited to so dark a cockerel. In the second-prize pen was again a rich-coloured cockerel with dark tail and heavily hocked; in the third pen another dark-tailed cockerel and a very fair pullet; in the fourth a very forward bird, now in the moult. Most of the pullets were but ordinary. All the four prizes for Partridge fell to the same exhibitor. The first-prize pair were deep in the moult, doubtless from the heat of the building. In the third pen were a grand pair, the cockerel very fine, but with his comb drooping a little; the pullet beautifully pencilled. One of the best marked pullets in the class, but with a small cockerel, was in pen 90 (Mrs. Gordon). In the class for any other variety Whites were first, a good pair, and worthy of a name so long famous for the breed; second were the wonderful green pair of Blacks we saw at Hemel Hempstead; third very white Whites, the cockerel particularly good; fourth Whites again, good in shape, but the cockerel a little yellow.

Brahmas.—Dark cockerels were a good class, superior to those generally seen last year, if not equal to those of some former years. First was a grand bird all round, of the Lingwood type, we think the first Hemel Hempstead winner; second with particularly bright orange legs, not a striking bird; third admirable in shape and style, but unfortunately loose in comb; fourth one of the largest birds in the class, but speckly in breast and grizzily in fluff. Among the unnoticed ones we liked a young but very promising cockerel shown by Mr. L. C. R. Norris; by the Crystal Palace time he should make a remarkable bird. In pullets first was a beautiful bird in marking, but not large; second the very pretty Silvers mated at Hemel Hempstead with the first cockerel; third a good-sized bird with very even breast marking; extra fourth short-legged with broad really black pencilling on white ground. This was a large and good class. In Lights the first cockerel was splendid in shape and hackle and far ahead of the rest; second a big and well-shaped bird, in the moult; third rather narrow; fourth nice all round. Pullets were a very large class: first was good in shape, very white in colour, with capital black hackle; second again very good, in pure ground colour; third a fine bird all round, promising to be a good hen. The pullets of this variety were much better than the cockerels.

Spanish.—The cup pair each showed great softness and smoothness of face, and were all round by far the best; second a nice pair in high condition, hardly up to the cup birds in quality of face. The cockerel in the third pen showed great length of face.

French Fowls.—Houdans.—We fear this breed, eminently one of size and stamina, are suffering from an exaggerated stress being laid on "leaf" combs. In the cup pen were a cockerel, grand in size though not good in carriage, and a very fair pullet. We liked the second pen; they were even in colour; the cockerel has a pretty comb and fine round breast, which is always a point in table poultry. The fourth pair were too dark for our taste; the cockerel had one of the desired leaf combs, but, as seems general, in combination with them a poor crest. Crèves.—The cup pen contained a cockerel with a fine crest, but with comb too much like that of a La Flèche, and a good pullet; second large, but cockerel deep in moult; the third cockerel was nice in head and crest, but squirrel-tailed. The Messrs. Fowlers' highly commended cockerel was the prettiest bird in the class for crest.

Hamburgs.—In the spangled class Silvers were first, not large in spangling; the cockerel was not healthy, and deficient in sickles. Golden were second and third. We preferred the latter. In the Pencilled class Golden were first; the pullet a forward and well-barred bird. Second Silvers, we did not at all like the look of the cockerel's comb and could not believe it natural. Third Silvers again, the cockerel's comb too broad and depressed, his tail nicely laced; the pullet was very good in breast marking. In Blacks the first were far ahead of the rest, being lovely in colour, and the cockerel's comb an honest one.

Game.—In Black Red cockerels we thought Mr. Dutton's second winner better than his first. Fourth a very nice bird, more forward in hackles than most. Mr. Lyon's two birds were deep in the moult, but must by-and-by distance most competitors; they are the sons of the famed hundred-guinea bird of last year. The cup pullet seemed a capital one, others had darker eyes than are generally seen in show pens. Time failed us to go through the Brown Reds carefully; they seemed a good average lot. In any other variety the cup went to a good Duckwing cockerel. Second was an undoubted Duckwing, third a rich Pile. In pullets all the prizes went to Duckwings.

Malays.—First a raw cockerel of immense length, second a very strong bird; third forwarder in hackle, but not so strongly built. In pullets first was well ahead, a rich dark Cinnamon; second very young; third a well-formed bird paler in colour.

Polish were a splendid class, which might well have been subdivided. First White-crested Blacks, very forward, and the pullet's crest beautiful in form. Second Golden, the pullet one of the finest we have ever seen, the cockerel, too, very promising; the same exhibitor's unnoticed birds, though young, were very good. Third Silvers, another capital pen.

Andalusians are indeed progressing and were a very good class. The cup pen had excellent laced breasts, and the cockerel grand head and form. Second a sprightly cockerel, and both well laced again. Third younger and very promising.

Sultans were a much better class than at Hemel Hempstead. Cup went to a pen of adults nice all round; the cock's comb and crest good. The cock in the second pen was in the moult; the third pen were rather dirty. A strange pair were shown in pen 536 (G. Furness), in colour like Golden Polish with feathered legs and Sultan form.

Lephorns were good classes. In the first pen of Browns was a good hen, but we could not see the merits of the cock. The cockerel in the second pen was a well-shaped bird, and the third pair were both well shown. We think the prevalent squirrel tail a great drawback to this breed; especially are they common in the otherwise pretty White breed. The cup Whites were far ahead; the cockerel is a grand bird; he might carry his tail better. Second were young and very white. Third large and a little yellow.

Any other Distinct Variety.—First La Flèche; we did not think them striking. Second Silkies, the pullet splendid in crest. Third capital Minorcas; we should have put them first.

Bantams.—The awards in the Game classes much puzzled us. The first-prize Black Reds did not match as to legs. Mr. Raynor's winning pair of Duckwings were a smart little pair. Blacks were forward and neat, not very small. Pekins came first in the Any other variety class, and Silver-laced second.

Ducks.—Aylesburys looked fine, but call for no special comment. The second-prize Rouens caught our eye as being very good; the drake deep and round in breast, which we think a great point. Pekins are a rising breed; they had fifteen entries; the third-prize pair were bred in 1878, and show the rapid growth of the breed. In Black Ducks first were small and very beautiful, specially the drake. In the second pen was a lovely Duck, but not such a drake as the first. Third were Cayugas. Fancy Ducks were few. Chiloe Widgeons first and Whistlers second.

All the winning *Geese* were Grey. The *Turkeys* looked fine, but are usually judged by the scales, and so the awards hardly the subject of criticism.

Langshans had four classes. We are somewhat interested in these, for evidently the breed is meritorious in some points—to wit, the hens and pullets nearly all looked as if laying in October, and we wish to give an important consideration to the question of whether they are a really distinct breed to Black Cochins, of which we have not as yet had any convincing proof. We especially regard the classes with a desire to see this difference. In cocks the cup went to a bird whose tail was represented by two streaming sickles; second was a thorough Cochins deep in moult. The first hen was fine and handsome and according to the Langshan type; second small and nondescript; third a large Cochins. In cockerels the cup went to a bird of some Langshan character; second was a bird in good glossy condition, which might do duty for a Cochins; third was more of the leggy type. The first pullet was very large and fine; second again good and of the Langshan type. In this class pen 957 (Skelton) was a fine cockerel, which in his proper class might have won.

From the immense size of the Show we must defer our notes on the Pigeons to next week. The arrangements for the sale of catalogues were simply abominable. On the first day we gave 1s. for what turned out to be nothing more than a bundle of leaves from the catalogue all wrongly arranged; on the second day we waited for hours to purchase one, but could not, and were only able to get another faulty one for more than the regulation price, while we were repeatedly tormented by passers to sell it again at a profit. Besides this inconvenience to visitors much must be lost to a show by such mismanagement of an important department.—C.

POLTRY.

DORKINGS.—Coloured.—Cockerels.—1, J. Hebditch. 2, L. Pilkington. 3, T. C. Burnell. 4, B. Smith. Pullets.—1, L. Pilkington. 2, J. Everett. 3, J. Taylor. 4, Rev. H. P. Peck. *vhc.* J. Hebditch. **SILVER-GREY.**—Cup, T. C. Burnell. 2, Hon. M. Colville. 3, P. E. Plummer. *Any other variety.*—*Chickens.*—1, Dr. E. Snell. 2, Miss E. Williams. 3, M. Fairhurst. *Cocks and Hens.*—1, J. Gee. 2, J. Taylor. 3, J. E. Pilgrim. **COCHINS.**—*Cinnamon.*—Cup, Lady Gwydyr. 2, Mrs. T. Fre. 3, H. Tomlinson. 4, A. E. W. Darby. *Partridge.*—1, 2, 3, and 4, R. J. Wood. *vhc.* G. B. C. Breeze. *Any other variety.*—*Chickens.*—1, P. H. Chase. 2, Lady Gwydyr. 3, C. A. E. Naylor. 4, Rev. R. S. S. Wadgate. *vhc.* P. H. Chase. *Cocks and Hens.*—1, S. Tuke. 2, C. Sidgwick. 3, J. Buckmaster. **BRAHMAS.**—*Dark.*—Cockerels.—1 and 3, Miss E. Shuter. 2, W. McNath. 4, Dr. J. Macrae. *vhc.* E. Kendrick. *jun.* Pullets.—1, J. Wood. 2 and 4, Miss E. Shuter. 3, Mrs. T. Fre. *vhc.* F. Bennett. **LIGHT.**—Cockerels.—1 and *vhc.* G. B. C. Breeze. 2, H. Lingwood. 3, J. Bloodworth. 4, J. Windred. Pullets.—1, J. and W. Birch. 2, T. Evans. 3, G. W. Pether. 4, Lady Gwydyr. *Dark or Light.*—1, J. Bloodworth. 2, S. Lucas. 3, G. B. C. Breeze. **SPANISH.**—Cup, 1, J. and W. Birch. 2, P. E. Le Sœur. 3, A. Bel. *vhc.* J. F. Dixon. 4, T. P. Troncone. **HOUDANS.**—Cup, W. Nicholls. 2, A. Rintoul. *jun.* 3, G. H. Harrison. 4, R. B. Wood. **CREVE-CEURS.**—Cup, C. Sidgwick. 2, I. Ward. 3, R. Pound. **HAMBURGS.**—*Gold or Silver-spangled.*—1 and 2, G. Randall. 3, J. Jackson. *Gold or Silver-pencilled.*—1, T. V. Castell. 2, J. Stuttard. 3, Dr. E. Snell. *Black.*—1, C. F. Copeman. 2, T. Mallinson. 3, J. Dickup. *jun.* **GAME.**—*Black Red.*—Cockerels.—1 and 2, Rev. F. Dutton. 3, S. Matthew. 4, W. P. Pope. Pullets.—1, J. Halsall. 2, W. J. Pope. 3, Dr. E. Snell. 4, Mr. T. Lyon. *Brown.*—Cup, J. Halsall. 2, W. J. Pope. 3, Dr. E. Snell. 4, Mr. T. Lyon. *White.*—Cup, J. Halsall. 2, W. J. Pope. 3, Dr. E. Snell. 4, Mr. T. Lyon. *Any other variety.*—Cockerels.—Cup, T. P. Lyon. 2, S. Matthew. 3, H. Beldon. Pullets.—1, A. Cameron. 2, H. E. Martin. 3, W. E. Oakeley. *vhc.* T. P. Lyon. **MALAYS.**—Cockerels.—Cup, G. Burnell. 2, W. L. Blake. 3, J. S. Bater. Pullets.—1, J. S. Bater. 2, J. F. Struening. 3, Rev. H. Fairlie. **POLISH.**—1, J. Farring-

ton, 2, E. Burrell. 3, G. C. Adkins. *vhc*, G. C. Adkins (2). J. Fearnley. ANDALUSIANS.—Cup, A. Stevens. 2, M. W. Brooke. 3, R. A. Boissier. SULTANS.—1 and Cup, Mrs. A. Christy. 2, Rev. J. B. Wright. 3, Mrs. A. J. Tritton. LEGHORNS.—*Brown*—1, E. Gibbs. 2, Mrs. Troughton. 3, R. Harvey. *White*—Cup, R. Fowler & Co. 2, R. Harvey. 3, E. Brown. ANY OTHER VARIETY.—1, H. Stephens. 2, Rev. J. S. Woodgate. 3, J. Harwood. *vhc*, H. Stephens. BAKERS.—*Game Ducking*—1, Rev. G. Raynor. 2, W. F. Entwistle. *Any other variety Game*—1, G. Hall. 2, R. Brownlie. 3, W. F. Entwistle. *Black*—1, W. H. Shackleton. 2, J. Carr. 3, W. D. Oscroft. *Any other variety*.—1, H. B. Smith. 2 and 3, M. Leno, sen. SELLING CLASSES.—*Game*—1, R. Swift. 2, T. H. & A. Stretch. 3, W. F. Entwistle. 4, G. Hall. *Any other variety*—1, W. D. Oscroft. 2, W. & J. Trask. 3, Mrs. Troughton. 4, A. Bell. *Ducks*—1, Miss E. Long. 2, W. Nicholls. 3, J. Hedges. *vhc*, R. Fowler and Co. (2).

DUCKS.—*Aylesbury*—Cup, 1, and 2, R. R. Fowler & Co. 3, J. J. Gunn. *Rouen*—2, A. J. Barber. *vhc*, F. Parlett. *Black*—1, Miss E. Browne. 2, L. W. Kewley. *vhc*, Mrs. M. A. Hayne. J. J. Malden (2). *Pekin*—Cup and 2, R. R. Fowler & Co. 3, A. E. W. Darby. *Any other variety*—1, Rev. W. Serjeantson. 2, M. Leno, sen. GEES.—1, S. H. Stott. 2, J. & W. Birch. 3, J. Everett. TURKEYS.—1 and 2, W. Wykes. 3, E. Kendrick, jun. *vhc*, Rev. N. J. Ridley (2). LANGSHIRE COCKS.—1, Miss E. Burd. 2, Lady Gwydyr. 3, S. Cowell. *Hens*.—1, A. C. Croad. 2, Mrs. B. Frank. 3, Lady Gwydyr. *Cockerels*—1, J. Thompson. 2, S. Cowell. 3, G. Heaselden. *vhc*, Miss Wilcox, Rev. C. W. Cox. *Pullets*—1, Miss H. A. Sivewright. 2, Rev. C. W. Cox. 3, S. Cowell.

PIGEONS.

POUTERS.—*Cocks*—1 and 2, R. Fulton. 3, N. Hill. *vhc*, J. Dye. *Hens*—1, J. Dye. 2, H. Beldon. 3, J. Baker. *Young Cocks*—1, R. Fulton. 2, T. Heirfield. 3, J. Guthrie. *Hens*—1, J. Dye. 2, A. P. Byford. 3, J. Baker. CARRIERS.—*Champion*—1, J. Baker. *Black or Dun*—Cocks—1 and Cup, M. Hedley. 2, R. Fulton. 3, E. H. & A. Stretch. *vhc*, T. Wicks. *Hens*—1, Cup and 2, R. Fulton. 3, M. Hedley. *vhc*, J. Dye. *Any other variety*—Cocks—1, W. G. Hammock. 2, G. F. Jones. 3, R. Cant. *Hens*—1, W. G. Hammock. 2, R. Fulton. 3, E. C. Stretch. *Young Cocks*—1, J. Baker. 2, M. H. Hey. 3, G. H. Culham. 3, J. C. Ord. *Young Cocks*—1 and Cup, J. E. Palmer. 2, G. F. Jones. 3, M. Hedley. *Young Hens*—1, M. Hedley. 2, T. K. Cuckey. 3, C. H. Clarke. DRAGOONS.—*Champion*—1 and 2, R. Woods. 3, T. C. Burnell. *Blue or Silver*.—Cocks—1 and 2, R. Woods. 3, T. C. Burnell. *vhc*, C. Howard. *Young Cocks*.—1, C. E. E. Chavasse. 2, R. Woods. 3, T. C. Burnell. *Hens*—1 and 2, R. Woods. 3, Cox & Norris. *vhc*, R. Wood. *Red or Yellow*.—Cocks. 1, A. Leith. 2, R. Woods. 3, Ellis. *Hens*—1 and 3, R. Woods. 2, C. Howard. *Extra*. 3, R. Howard. *Young Cocks*—1 and 2, A. Leith. 3, R. Woods. *Young Hens*. 1, A. Leith. 2, R. Woods. 3, Ellis. *Any other variety*—Cocks—1, J. Booth. 2, R. Woods. 3, G. Packham. *Hens*—1, 2 and 3, R. Woods. *Cocks or Hens*. 1 and 2, R. Woods. 3, W. Smith. *vhc*, J. Calcutt. *Blue*—*Hens*—1 and 2, R. Woods. 3, W. Osmond. *Silver*—*Hens*—1, R. Woods. 2, T. C. Burnell. 3, J. Chandler. TUMBLERS.—*Almond*—Cocks—1, R. Fulton. 2, J. M. Baird. 3, J. Baker. *Hens*—1, J. Baker. 2 and *vhc*, R. Fulton. 3, H. R. Tenney. *Young*—1, R. Fulton. 2, F. Fulton. 3, R. Cant. *Long-faced*.—1, J. Baker. 2, H. R. Tenney. 3, J. N. Hobbs. *Any other variety Long-faced*—1, J. Baker. 2, H. E. Yates. 3, H. Yardley. BARBS.—1, M. Hedley. 2, R. Fulton. 3, W. J. Nichols. JACOBS.—*Red or Yellow*—Cocks—1, Cup and 2, J. Frame. 3, R. Fulton. *vhc*, T. Holt. J. Frame. *Hens*—1 and 2, J. Frame. 3, R. Fulton. *Any other variety*—1, S. Logan. 2, J. Baker. 3, R. Fulton. *vhc*, J. Frame. FANTAILS.—*White*—1, Rev. W. Serjeantson. 2, J. Waters. 3, G. Cresswell. *vhc*, J. P. Lenny. *Any other variety*—1, J. Baker. 2, P. R. Spencer. 3, H. Yardley. NUNS.—1 and 2, J. A. Winsloe. 3, W. P. Stevenson. TRUMPETERS.—1, J. Lederer. 2, J. Baker. 3, J. Wood. OWLS.—*Champion*—1, J. Baker. 2, T. W. Swallow. 3, H. W. Weaving. *English*—Cocks—1, J. Barnes. 2, T. Schweitzer. 3, T. S. Stephenson. *Hens*—1, J. Baker. 2, Ward & Lester. 3, H. Parker. *vhc*, E. W. Van Senden. *Young*—1, T. Schweitzer. 2, J. Baker. 3, E. W. Van Senden. *Foreign*—1, W. Hutt. 2, R. Woods. 3, H. R. Tenney. TUBBERS.—*Blue*.—1, R. Woods. 2, J. Dye. 3, E. C. Stretch. *vhc*, W. P. Stevenson. *Any Silver*—1, R. Woods. 2, J. Dye. 3, E. C. Stretch. *vhc*, W. P. Stevenson. *Any other variety*—1, T. C. Burnell. 2, J. Baker. 3, G. Webster. *vhc*, C. A. Crafer. *Young*—1, J. Dye. 2, G. Roper. 3, J. Baker. MAGPIES.—1, 2 and 4, F. P. Bulley. 3, J. Baker. *RCNTS*—1, H. Stephens. 2 and 3, J. S. Price. ANTWERPS.—*Short-faced*—1, J. Kendrick, jun. 2, W. B. Maplebeck, jun. 3, E. Flicker. *Homing*—Cocks—1 and Cup, W. Stevenson. 2, W. & T. Duke. 3, G. Carvill. *vhc*, T. Gomm. *Hens*—1, G. Webster. 3, W. Stevenson. 3, G. J. Lenny. *vhc*, W. E. Willis. ANY OTHER VARIETY.—1, J. A. Winsloe. 2, F. Bulley. 3, C. Ellis. *vhc*, W. J. Nichols. *Cocks and Hens*—1, C. Cork. 2, A. Wright. 3, P. H. Jones. SPECIAL FLYING CLASS OF HOMING ANTWERPS.—Cocks—1 and Cup, W. E. Willis. 2, E. Wormuld. 3, J. Edmonds. 4, G. J. Lenny. 5, P. J. Chetmins. *Hens*—1 and 4, G. J. Lenny. 2, E. Burue. 3, G. Carvill. 5, W. H. Cottell.

FAMOUS POULTRY YARDS.—No. 2.

CHARDLEIGH GREEN (MISS E. BROWNE).

THERE are poultry yards which are famous for the excellence of their inmates without being either expensive or elaborate in construction. We shall make it a point to notice some of these. Our aim in promoting the poultry fancy has always been to encourage its general development—i.e., the breeding of poultry by all classes who have room to do so on a scale adapted to the special requirements of each rather than the hasty starting of great and magnificent establishments. These are very useful in their way as models, but the best and most successful of them have grown out of small beginnings.

We promised in our account of Combe St. Nicholas Vicarage to relate something of a neighbouring yard to which we paid a visit. It is Chardleigh Green. We have so often seen the name of Miss Browne in the prize lists, and have seen in her pens such lovely Spangled Hamburgs and Spanish with such grand faces, that we naturally fancied they must come from runs and pens innumerable; but it is not so. Intelligent care and management are the first requirements for successful breeding. A trimly-kept creeper-clad house stands near the country road; here live the owners of the well known poultry and equally well known Newfoundland dogs. While waiting for Mr. Browne we admired the portraits of the famous dogs; prominent among them was that of the renowned champion, now, if we forget not, seven years old. We were somewhat disappointed when Mr. Browne, who by the way seems full of interest and knowledge of the birds shown in his sister's name, told us that no pains were now taken with the poultry—all had gone down, and were not worth looking at. To us all birds are interesting, so we begged to see what these were. First we were taken through the house into a neat and pretty garden. Under

the trees in a snug corner were a pair of Carolinas, drake and Duck, in their glory; they have a perfect little garden to themselves, pond and rocks and bushy retreats, all wired in, and all in miniature. They evidently appreciate it, and would hardly show themselves. Thence we went back through the house and across the road to the poultry yard; great indeed was our wonder here to discover the delusive depths of Mr. Browne's modesty. No poultry worth seeing! A whole troop of various kinds came rushing round. In a moment our eye caught in many a one signs of the highest breeding. There were Spanish hens, now in the moult, and so without the bloom of condition; but what faces! so large and smooth and well shaped. Then Silver-spangled Hamburgs, even now with that peculiar glistening sheen which one nowhere sees as in the moons of this breed; a Moony cock or two, and Silver-spangled cockerels of the utmost promise for the show pen. Many a cup-winner is not taken from a run all to itself, but just picked out of a yardful—the birds at liberty, and all the stronger for it. Next we went down a rich sloping grass field, and there were the whole flock of the redonatable Sainsbury Black East Indian Ducks, bought last winter by Mr. Browne, and their produce of this year, revelling in their element—a broad ditch which runs down to a pond. July is not a happy month for Ducks, but even then one could see the glowing green gloss on the earlier young birds and on some old ones. We have often dwelt on the beauty which number adds to the appearance of almost all birds. It struck us forcibly again; there were full sixty—some in the water, some out of it sleeping on the bank, some ranging over the grass, and a beautiful sight it was.

Lovers of good poultry almost invariably like to have everything good and well arranged. We cannot account for this, but have observed it to be a fact. From here Mr. Browne took us to the conservatory and dog kennels, each admirable for their purpose. In a row of luxurious kennels were the splendid stud of Newfoundlands. A sound from one or two was a warning to be wary. Woe indeed to trespassers at Chardleigh Green! A lot of five puppies about six months old specially astonished us for their gigantic size. Several were had out one by one, and were greeted in a very rough fashion by their brothers and sisters on being returned to the family circle. Lastly the renowned old champion was exhibited. He did not much like our looks, and circled slowly about, carrying a bowl in his mouth. We were not sorry that he was so well employed.

But we had not seen all the poultry. Down a lane was a detachment of Silver-spangles, in the most perfect place conceivable for white birds or those of delicate colours. Through a cottage garden we came to a large orchard, thickly overgrown with fruit trees above and rich with moist grass below. Here was the cockerel breeding pen. We have always thought a good show Silver-spangled cock the most beautiful of poultry, and were much disappointed that the chancier of this lot refused to be seen or found. We saw, however, his party of wives, and very pretty they were, though adapted for breeding cockerels, and not according to the exhibition standard. We have never been quite able to educate our taste to like the most heavily-mooned hens now shown; they are certainly beautiful when the spangles are evenly distributed, but we have heard it hinted, though we have never ourselves tried the breed, that Nature seldom gives great regularity to the heavy moons. For this reason and for beauty's sake we should prefer spangling something between that of show hens and these cockerel-breeding hens. Here ended our interesting and pleasant visit, and we end as we began by saying that without many or costly houses, and therefore without all the trouble of opening and shutting gates, letting in and letting out different lots of birds—high class strains of one or two breeds can be well kept for pleasure and successfully shown.—C.

VARIETIES.

WE have before us the schedule of the seventh Oxford Poultry, &c., Show, to be held on the 30th and 31st inst. There are forty-nine open poultry classes with cup, second, and third prizes in each, and fourth prize in some. Among the less common classes are those for undubbed Game cocks, Andalusians of any age, Silkies and Sultans of any age. There are six classes for Ducks, including one for Pekins, one for Mandarins or Carolina, and one for Any other variety. There is also a class for Pheasants. There are five selling classes for large poultry, one of Bantams, and one for Ducks. There are no less than seventy-five classes for Pigeons. Dragons are specially well treated with fifteen classes and Antwerps with eight. We should remind our readers that entries close on Saturday next 19th inst., and that at Oxford the day is strictly adhered to. We have also just received the Crystal Palace schedule, which is materially improved and enlarged. We will review it fully next week.

— MESSRS. E. WEBB & SONS of the Royal Seed Establishment, Worsley, Stourbridge, intend holding their Great Root Show at Curzon Hall, Birmingham, on November 20th and 21st. Prizes of the value of nearly £500 are offered for competition by their customers at various shows during the season, including twenty-seven silver cups. The entries for root crops for competition at the

Show in question in Division 5 for crops of 5 acres of Swedes and 3 acres of mangold wurtzels close on October 23rd next, whilst those for specimen roots, potatoes, vegetables, and cereals (Divisions 1, 2, 3, and 4) close on November 13th, and that the latest day for receiving specimens intended for competition is November 15th. All exhibits must be sent per goods train, carriage paid, addressed to Webb & Sons, Curzon Hall, Birmingham.

—At the Kilmarnock Poultry, &c., Show, which is to be open under distinguished patronage on November 22nd, twenty-one mantlepiece timepieces are offered in the poultry classes as special prizes, in addition to the money prizes; eleven timepieces in the Pigeon classes, six in the Canary, and two in the Rabbit classes, making a total of forty timepieces. The schedule comprises eighty-eight classes, exclusive of those for Canaries and Cage birds. The entry for money prize in each class is 2s., for money prize special 3s. Entries close on November 9th.

—At the third National Columbian and Bantam Show announced to be held at the Winter Gardens, Southport, on the 30th and 31st inst., the following special prizes are offered for Pouters:—To the amateur who wins the greatest number of points, cup value £3 3s. To the exhibitor of the best Pouter in lieu of first prize, cup or money, £2. The Norman Hill Challenge Vase, value £15 15s., presented by Capt. Norman Hill, London, to be competed for at Southport and at the Crystal Palace. First, this prize to be for the best standard Pied Pouter cock at the above Show (any age). Second, to be competed for until the same bird receives the highest award on three different (not of necessity consecutive) occasions. Third, this prize to be an additional or extra one, not intended to take the place or effect of any other prize or prizes at the respective shows. Fourth, birds competing to be the *bona fide* property of the exhibitor, making the entry for at least one month prior to each show. Fifth, birds to be judged in a judging pen not less than 3 feet square. Sixth, the judge or judges who adjudicate for this special prize to be acknowledged Pouter judges, whose reputation for impartiality shall be above suspicion.

THE STEWARTON SYSTEM.

SURELY "A RENFREWSHIRE BEE-KEEPER" in his letter on page 253 is too strong in his condemnation of the straw-skep system as distinguished from the bar-frame system. I have kept bees on a small scale for the last six years in skeps, and have derived much pleasure and some profit in so doing. No doubt the Stewarton system has many advantages for bee-keepers who have an unlimited amount of time at their disposal to look after and manipulate their hives, but there are many people like myself who have other occupation for the greater part of every day, and have very little time to devote to their bees.

I have always thought from what I have read in "our Journal" and in other papers that the bar-frame system requires much more time and attention than the one I now practise. It would be interesting to many of your readers if some apianian who has tried both systems would give us the benefit of his experience on this point.

There are two great advantages in favour of the straw-skep system; one is that the hives are much cheaper, and the other that they are more easily managed. This year has not been particularly good for bees in this part of the country, but although I have had two misfortunes (one being the loss of my first swarm) I am fairly satisfied with the result of my honey harvest.

At the beginning of the season I had two rather weak stocks of bees in 16-inch hives. I have taken 71 lbs. of beautiful run honey and 21 lbs. of honeycomb, and this is a neighbourhood not particularly favourable for bees.—EDWD. THORP, *Salce, Cheshire.*

OLD COMBS AND FOUL BROOD.

WHILE by no means advocating the employment of combs to extreme old age, doing so, it must be borne in mind, does not necessarily induce disease. I remember referring to a case in the first volume, new series, of this Journal, of a farmer's wife preserving a straw skep which threw a couple of swarms regularly for twelve years.

Renewing brood combs annually as proposed by Mr. Pettigrew is an unnecessary waste of time and material to the bees; the combs are perfectly safe and serviceable for many years. The skilled gardener to renew his tree does not lop off all its branches at once, but removes every alternate first; and so with the skilled apianian, the removal being yet more easily effected with his moveable combs. Before the Stewarton hive was fitted with moveable bars or frames renewal was effected every two or three years by removing the uppermost breeding box with some thirty odd pounds of honey, the second taking its place, and a fresh one added to the bottom of the pile kept it continually rejuvenated.

Mr. Pettigrew has, however, evidently another and more pressing motive for the annual renewal of his combs, hoping thereby to get rid of a far greater evil—viz., foul brood. It is no disease of the combs, I having seen it in as virulent a form in fresh new comb as in old, the infection having been conveyed to both through the honey of infected stock. It has its origin in the

unsealed over-heated fermented honey or soured watery unsealed sugar syrup, the foul-brood fungi finding a congenial cradle in the decomposing matter of both, the larvæ fed thereon inevitably perishing, the disease gathering intensity as it spreads till the stock dwindles away.

Your readers cannot be sufficiently warned of the risk run in accepting condemned bees unless they have an opportunity of inspecting thoroughly the combs of the stocks from whence they were taken. The cottager naturally seeks to put down for honey the unprosperous skep, often infected with foul brood. Each driven bee carries with it its honey bag distended with contagion. They may be put together *en masse* and shaken out as recommended by Mr. Pettigrew like corn or peas, who all the while may be inoculating his fresh-combed stocks with the virus of the disease he is at such pains to try to eradicate.—A RENFREWSHIRE BEE-KEEPER.

OUR LETTER BOX.

CANARY MUTE SINCE MOULTING (W. W. Eyres).—He will resume his song, but the delay much depends on the weather.

LOSS OF HIVES (R. Wathen).—The loss of hives last winter was remarkable and pretty general throughout Great Britain. They were lost from want of young bees to take the place of those that died of old age. Last year bees ceased breeding at an unusually early period, and did not commence early this spring, hence the loss of thousands of hives, and probably yours amongst them. Hives this year are better stored with bees, and therefore more likely to live and do well. The supers on your three stocks should be removed, and the hives well covered with straw or other material to protect them from cold and wet. Contract their doors so that mice cannot enter.

WAX GUIDE-MAKING MACHINES (Zeno).—Write to Mr. Frank Cheshire, Acton, Middlesex, for one. Straw hives to be worked on the Stewarton principle should have their crown holes considerably wider than they usually are, and bars across these holes for the combs to be fastened to and built downwards, and thin boards to cover them till supering commences. The supers to be used should be 4 inches deep, and wider of course than the crown openings. The bees would and should have free access to the supers, and if tiers of supers be used all the bottom ones should have cross bars on their tops wider or broader than those on the hives below. You will see by looking at Mr. Briscoe's latest communication that in supering the Stewarton hive all the slides are removed, giving both bees and queens perfect freedom from bottom to top. If your straw hives are now peopled with bees let them remain as they are till they are full of bees in spring and require supers. Before using the supers cut out with a penknife three holes outside the central hole in the crown of the hives, say 4 inches long and 1 inch wide, then take the lid from the central hole and super as now suggested. If you want to run no risk take a wing from the queen before the supers are put on. Wax guides will help much, and may be easily fastened to frames of any size and single bars. With strong hives of any kind and free access to capacious supers furnished with guide combs you will not be disappointed with the results.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.						Rain.
1878.	Baromet. at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		In. on grass		
Oct.		Dry.	Wet.			Max.	Min.	In sun.	On grass			
		Inches.	deg.			deg.	S.S.E.	deg.	deg.		deg.	
We. 9	29.643	59.8	55.2	S.	56.2	63.8	52.9	98.1	48.2	0.435		
Th. 10	29.265	58.8	55.8	S.	56.0	63.2	55.7	90.6	51.2	0.151		
Fri. 11	29.582	52.3	48.7	W.	55.1	60.0	47.6	106.0	44.0	—		
Sat. 12	30.258	47.3	45.4	W.	53.2	61.2	41.3	101.8	37.0	—		
Sun. 13	30.343	44.0	43.8	N.	52.0	61.7	36.7	97.2	32.8	—		
Mo. 14	30.193	48.5	47.7	E.	51.1	60.0	39.2	90.0	33.0	—		
Tu. 15	29.990	52.9	51.0	N.	50.7	59.3	43.2	73.2	36.2	—		
Means	29.936	52.0	49.7		53.5	61.3	45.2	98.1	40.3	0.686		

REMARKS.

- 9th.—Fine bright morning, very high wind, rather cloudy after 11 A.M., slight showers, heavy rain at 4.50 P.M.; fair evening; moonlight night.
10th.—Rain and high wind in night, heavy showers during the day, with intervals of sunshine; fine evening.
11th.—High wind all the morning, fine bright day; calm moonlight evening. Lunar halo 11.30 P.M.
12th.—Fine bright day throughout; rather misty in evening.
13th.—Misty morning; fine autumnal day, bright and calm.
14th.—Misty morning, fine sunny day; gusty afternoon; calm moonlight evening.
15th.—Calm cloudy morning; fair but dull all day.
The night of the 9th very warm, otherwise temperature generally much cooler than the previous week.—G. J. SIMONS.

COVENT GARDEN MARKET.—OCTOBER 16.

WE have no alteration to quote, prices remain the same and trade quiet.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½ sieve	2	0	4	Melons.....	each	1	0	4
Apricots.....	dozen	0	0	0	Nectarines....	dozen	0	0	0
Chestnuts.....	bushel	0	0	0	Oranges.....	£ 100	8	0	16
Figs.....	dozen	0	0	0	Peaches.....	dozen	8	0	12
Filberts.....	£ lb.	0	8	1	Pears, kitchen..	dozen	0	0	0
Cobs.....	£ lb.	0	8	1	dessert.....	dozen	2	0	6
Grapes, hothouse	£ lb.	9	6	0	Pine Apples....	£ lb.	8	0	6
Lemons.....	£ 100	6	0	18	Walnuts.....	bushel	5	0	8

WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 24—30, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.			
24	TH	Sale of Bulbs by Protheroe & Morris.	56.3	39.6	47.9	6 41	4 47	4 37	3 38							297
25	F		55.9	38.5	47.2	6 43	4 45	6 8	3 58							298
26	S		56.5	36.5	46.1	6 45	4 43	7 42	4 22							299
27	SUN	19 SUNDAY AFTER TRINITY.	55.1	38.4	46.7	6 47	4 41	9 14	4 55							300
28	M	Sale of Nursery Stock at Dorking.	54.5	35.9	45.2	6 49	4 39	10 38	5 40							301
29	TU		54.0	35.7	44.7	6 50	4 37	11 46	6 41							302
30	W	Sale of Bulbs at Stevens's Rooms.	54.9	38.3	44.3	6 52	4 35	0 a 36	7 53							303

From observations taken near London during forty-three years, the average day temperature of the week is 55.1°; and its night temperature 37.4°.

HARDY PERENNIALS IN MID-OCTOBER.

AT the risk of tiring your readers I must for the last time this season again take stock of the hardy perennial borders; for although we have had a little frost and much wind and rain, though Coleuses are shrivelled, Alternantheras almost leafless, and the ordinary flowering bedding plants are becoming altogether uninviting, there are still in the perennial borders in good condition some of the best flowering plants in existence.

Michaelmas Daisies are perhaps common plants, and there are many worthless species of them in botanical and other collections; but who can look on a good plant of *Aster longifolius formosus* with its abundance of bright rosy lilac flowers without admiration? A great point in its favour, too, is that it is self-supporting, requiring no ugly stakes—that great drawback to the beauty of herbaceous plants excepting where there is an artist to tie them up. It grows about 2½ feet high and forms a dense bush in a similar way to *A. horizontalis*, but it is very much better than that good old sort.

Aster Amellus is less in stature, being about 18 inches high, growing erect, and having its flowers arranged nearly as flat as a table all over the top; its colour is nearly blue, and it is very beautiful. *A. Amellus bessarabicus* is nearly a bright purple, and has broader petals than the type; it flowers three weeks or a month later than *Amellus*, is about the same height, and altogether distinct and good. *A. amelloides* is intermediate in colour between the two previously mentioned sorts, and although very good is not strikingly distinct from them. *A. ericoides* is 5 feet high, with an abundance of small white flowers, and has a very graceful habit. *A. grandiflorus* is just coming into bloom; it is 4 feet in height, and has large purple flowers. *A. pulchellus* is scarcely a foot high, and has fair-sized lilac flowers produced in abundance. *A. pendulus* is 4 feet high, with bluish-purple flowers, bright and distinct. *A. Novæ-Belgæ* is taller still, being 6 feet high, and of a reddish colour; it does well in a back row, and shows off to advantage against the large showy Ox-eye Daisy-like flowers of *Pyrethrum uliginosum*, also 6 feet high. Another back-row plant which is pretty well known is the double perennial Sunflower, *Helianthus multiflorus plenus*; this, too, is 6 feet high, and bright yellow in colour. The great Torch Plant, *Tritoma grandis*, is now coming up in all its glory and will last till December if the weather is not too severe; and the late-blooming Monkshood (*Aconitum autumnale*) is still in fair bloom beside it. It is a fine old back-row border plant for flowering late in the season.

The Japanese Anemones are pretty well known, but we never see too many of them; they are of such easy culture, and they look well in any conceivable place where they would be likely to grow; they are the best of flowers for cutting, and the most perpetual bloomers amongst hardy plants, that we can never admire them sufficiently. The pure white Honorine Jobert and the pale pink hybrida are, I consider, the best. They grow from 2½ to 3 feet high,

and produce larger and later flowers when transplanted than otherwise.

Schizostylis coccinea, like a miniature *Gladiolus*, is now throwing up abundantly its beautiful scarlet spikes about 2 feet high, and will continue doing so until Christmas unless the frost stops it. It flowers very freely, and is one of the hardiest and easiest plants to grow. *Tradescantia virginica*, of which there is a great variety ranging from purple and blue to nearly white, is still very showy. It is about 2½ feet high, and of very easy culture.

Gaillardias are rather uncertain plants, going off sometimes without any apparent reason, but they are very telling. *G. grandiflora*, 2½ feet high, with its large and almost gaudy crimson and yellow flowers, is now in perfection; and so, too, is *Centrocarcha grandiflora* (syn. *Rudbeckia fulgida*), yellow and black, even more beautiful than the Gaillardias, and of the easiest possible culture. This is also about 2 feet high.

The Cape Forget-me-not (*Anchusa capensis*) is still in good bloom; it is a little more than a foot high, and of a deep blue colour, even rivaling the true Forget-me-not. *Campanula Portenschlageana* is a pretty trailing plant, with purple flowers in abundance and a continuous bloomer; it would probably do well for bedding. *Cyananthus lobatus* is another trailing plant with light blue flowers, which are produced very freely all through summer and autumn. *Lilium speciosum* and its white variety are getting past their best, but in a northern aspect on peaty soil they are still very good. Some of the Colchicums, as *byzantinum* and *speciosum*, are gone; but we have still the double white, which is the best of all, the double lilac, and some single varieties, also the most beautiful of all Crocuses *C. speciosus*.

Altogether, although a few of the good plants enumerated last month have faded, we have others to replace them; and the borders are still very gay and interesting. The appended list contains, in addition to about seventy of those given on page 281, nothing but what is flowering in mid-October, and nothing that is not perfectly hardy.

<i>Aster acris</i>	<i>Francoa rupestre</i>
<i>A. amelloides</i>	<i>Funkia japonica variegata</i>
<i>A. Amellus bessarabicus</i>	<i>F. lancifolia</i>
<i>A. canus</i>	<i>Gaura Lindheimeri</i>
<i>A. dumosus</i>	<i>Gypsophila procumbens</i>
<i>A. Fortunei</i>	<i>G. speciosa</i>
<i>A. grandiflorus</i>	<i>Hypericum olympicum</i>
<i>A. leucanthemus</i>	<i>Lobelia fulgens</i>
<i>A. Novæ-Belgæ</i>	<i>Monarda purpurea</i>
<i>A. sericeus</i>	<i>Physostegia speciosa</i>
<i>Cedronella cana</i>	<i>Pyrethrum uliginosum</i>
<i>Chrysanthemum</i> , summer vars.	<i>Rudbeckia intermedia</i>
<i>Crocus aurea</i>	<i>Scabiosa caucasica connata</i>
<i>Crocus speciosus</i>	<i>Schizostylis coccinea</i>
<i>Cyclamen europæum album</i>	<i>Stokesia cyanea</i>
<i>C. hederæfolium</i>	<i>Tricyrtis hirta</i>
<i>C. hederæfolium album</i>	<i>Vittadenia triloba</i>

—WILLIAM TAYLOR.

[It is pleasing to observe that the merits of hardy border flowers are being increasingly appreciated, and that the plants are being cultivated more extensively than formerly; and the pleasure is enhanced, because this is not being

effected at the expense of other modes of garden decoration.—Eds.]

ABOUT VINES.—No. 1.

WHEN about to commence growing Vines the thing that surprised me most was the great diversity of opinion that was held by Vine-growers as to the best treatment. This diversity of opinion led me to conclude that Vines must be tenacious of life, and if they secured something like ordinary common-sense treatment they would make satisfactory returns. This being my third year's experience my early opinion remains the same. During the three years I have met with some disappointments and things to dishearten frequently, success also has been my share; but now partly across the stream how glad I feel when remembering the valuable experience I have gained by failures which once perplexed me. I fortunately have had many kind friends; but the inexperienced person who wishes to grow Grapes must not expect that advice is all that is needed, he must think for himself if he wishes to succeed. Let me here stipulate that my remarks are intended especially for amateurs, but at the same time if any advice I may offer by professionals be counted unsound, then I shall be glad if I should succeed in raising a friendly criticism.

Of my pleasures one is to make a clean breast as to how a thing is done. Secrets are not of my store, and I always look with pity on the person that is famed for his secrets. It will not be possible to speak of all the difficulties I have met with in one, or perhaps two or more articles; consequently I will begin at the beginning—Vine-raising, and then follow on in succession with my three years' experience.

When I commenced to plant my desire was the fashionable one—to procure strong canes; and I may here say, with what I procured I was so far satisfied that, did I require to purchase a fresh supply, I would willingly again purchase from the same gentleman. But experience has since taught me that strong canes are not the most desirable. What is wanted is a potful of healthy roots with just such a cane as no exciting treatment will furnish. A child 6 feet 2 at fourteen is something to look at, so is an extraordinarily strong cane the first season from the eye, but it is neither a natural nor desirable growth, and certainly not calculated the second season to do well. Stimulants to young Vines the same as to young children I vote a curse. During my short experience in looking round I have met with many planting canes and some fruiting canes that at the first glance have been fine to look upon, but after being turned out from the pots their roots have been only "mush." When it is decided to stimulate young Vines with guano—which at best I consider a foolish practice—its application ought only to be entrusted to the most trustworthy. Even one careless watering will so damage the roots that, however strong the cane may be, a Vine from the eye the season following will be stronger at the end of the first season than will the cane with the damaged roots by the second season of its growth. This I have proved.

My land being rather light I sought it all over for some soil a little stronger. On the side of the old fence where the watercourse had been dug deep out and the subsoil laid up against the fence for many years, I found some just to my liking; so the first season I secured all I could, added a little cow manure, and this year I have found this heap most desirable. Being desirous to raise Vines I determined, attain what size they might, to grow them in this compost, also to grow them in a cold house and to water them only with pure water. With this treatment I had the pleasure of stopping my canes at 6 feet, and their roots are something to be proud of. This, in connection with the raising of Vines, your readers will see is very simple treatment, as I will also show are many other of the treatments in connection with the Vine really necessary to secure success.—JOSEPH WITHERSPOON, *Red Rose Vineries, Chester-le-Street.*

THE PAMPAS GRASS AND ITS CULTIVATION.

GRASSES are a family that comprise a great many species, and form one of the very large bodies of the vegetable world. There is no region of the universe where varieties are not to be found, and what is there in the whole vegetable kingdom so useful and conducive to the health and happiness of mankind?

Of all the Grasses cultivated for ornamental purposes we think the Pampas should be placed first on the list. What is there more effective in pleasure grounds, or on lake banks, at

this season of the year than the spikes of this silvery giant waving to and fro with the breeze? Being a native of the prairies in the Argentine Republic some people imagine that moisture is its chief essential. These prairies, or pampas as they are generally termed, from which the plant derives its name, are not what many suppose them to be, vast tracts of marshy land; indeed, the ground is in most parts level, and at certain seasons pretty dry. As a proof of this we find when the Pampas Grass is planted in a shady wet situation in this country that it seldom produces flowers, yet how many plants do we find placed in such positions, and large specimens too? If by chance the plants thus placed do flower they only produce three or four worthless spikes, and this goes on year after year, until at last the plants are condemned as being a bad variety, while the whole cause of this barrenness lies at the root of the evil—of planting them in such situations.

Our largest specimen has thrown up sixty spikes this season, and is at present in full flower. It is 9 feet high, and the foliage, which hangs like a fountain in full play, covers a circumference of 45 feet. It is six years planted out from a 48-sized pot. Its position is due south, and stands in a bay of the tennis ground, sheltered from north and west by a background of tall shrubs. There was a pit dug out about 2 feet deep and 12 in circumference, and filled up with a mixture composed of chopped-up old pasture sods, lime rubbish, and cow manure trodden firm. When the flower spikes appear we give liberal waterings with pretty strong liquid from the cow house until the flowers are fully out.

I am convinced that the success in flowering these Grasses is due to their full exposure to the sun; they thereby get early and well ripened, and so the fact holds good in the case of the Pampas Grass as well as in all other plants and fruits—good ripened wood is the harbinger of success.—H. E. A.

TEA AND NOISETTE ROSES.

I VENTURE to send a list of twenty-five Tea and Noisette Roses which I can confidently recommend to readers of our Journal as most suitable for exhibition, appending a few remarks on most of the varieties I did not touch upon in my former communication.

Of course M^{re}chal Niel must head the list of all Tea Roses for what purpose soever wanted—garden, conservatory, decorative, or what not. But how seldom is this grandest of all Roses seen at all in the exhibition hall! and when seen hardly ever well shown, being either disproportionally large or small with its company, and especially is this the case in its own class among Teas or Noisettes. By-the-by, has any rosarian found out the secret of pruning the Rose (I do not mean against a wall or pillar)? Mr. George Paul's idea is the best I ever tried—to start with three plants (or some multiple of three), and cut-back hard one plant every year, so that each third year would give a plant with vigorous blossom-producing wood.

How so competent a rosarian as Mr. Charles Turner (in company I know with many others) can bracket Madame Bravy and Alba Rosea in his Rose catalogue, is a mystery to me. The former in true character is globular and much fuller, while the shape of the leaves of both entirely differs. That good old pot Rose Eugène Desgaches seems to me to run Alba Rosea much closer.

Is America grown as often as its merits deserve? I believe not. It is almost if not the only variety of its class which opens really well, and for its freeness of growth and hardness is eclipsed by few Roses. I remember seeing triplets of this variety exhibited at the good old Birmingham Rose Show, which were by many mistaken for that grand old Bourbon Souvenir de la Malmaison.

Belle Lyonnaise, though undoubtedly a first-class Rose, I find very uncertain except in autumn, and I seldom can bloom it even then in character; but a cousin of mine in the neighbourhood, with, perhaps, the difference of a slightly heavier soil, is seldom without splendid blooms in her garden, bearing out a remark I have before made about different rosarians having their different specialties.

In the group in which Souvenir d'un Ami is the acknowledged old favourite I have included in my list Souvenir de Paul Neyron, as I consider Comtesse Riza du Parc a far superior Rose where they differ at all in depth of colour and substance. Indeed, I consider this the finest new Tea Rose sent out for some time, as Madame Welsh I thought so highly of from two or three blooms I saw in the spring under glass will require

more time to mature its reputation, but I believe it will be a grand Rose.

Of the varieties of which Gloire de Dijon is the respected parent (and these are legion), I have omitted them all; they seldom open well, many not even under glass, and with me have only resulted in disappointment. Madame Berard, however, is a splendid exception, and both in the bud and blossom is always a great addition to the exhibition stand, giving that deep orange colour so conspicuous in the Safrano-Madame Falcot type, without their deficiency in size. Niphetos, a well-known, large, shell-shaped flower of the purest white, should find room in every collection, as when well shown its place never can be filled up.

Madame Margottin with its rich citron-coloured blossoms, and Souvenir de Monsieur Peron with its delicate peach tints, have both been specially glorious this year, and rank among the finest exhibition Roses. The same remark applies to that somewhat uncertain but well-known gem Rubens, when grown in character it cannot be surpassed.

Why my friend Mr. Camm gives so high a place in his election list to Julie Mansais I fail to see, for I never can get this Rose to open at all. I certainly saw a superb bloom of it exhibited at the Alexandra Rose Show this spring, but concluded it must have been grown under glass. Souvenir d'Elise and Souvenir d'Elise Vardon I think most rosarians will agree may fairly go in the same bracket.

Jean Ducher is a fine exhibition Rose of great size and substance, but it has a very great drawback, shared by H.P. Comtesse de Sereyne and some other Roses in producing its blooms as a rule of a dull dirty colour, caused probably by the running of the great variety of tints from palest yellow to dark red. President is a constant but rather small Rose, very free-flowering and of good habit, which Perle de Lyons of great substance unfortunately is not.

The following is my selection :—

Maréchal Niel
Madame Bravy
America
Alba Rosea
Belle Lyonnaise
Catherine Mermet
Marie Van Houtte
Souvenir d'un Ami
Comtesse Riza du Parc
Jean Ducher
Madame Camille
Caroline Kuster
Devoniensis

Madame Hippolyte Jannin
Madame Margottin
Niphetos
Perle de Lyon
President
Rubens
Souvenir d'Elise
Souvenir d'Elise Vardon
Souvenir de Paul Neyron
Triomphe de Rennes
David Pradel
Madame Maurin

—HEREFORDSHIRE INCUMBENT.

FORCING VEGETABLES.

SEAKALE.

ALTHOUGH the noble family it is my pleasure to serve does not consider Seakale a first-class vegetable we always keep a little of it in hand for variety during the winter; but there are many who value it highly and require large quantities of it. Fortunately for such it is not difficult to force, and a large quantity of it is just about as easily secured as a small one. The principal point to aim at in Seakale growing is to have it strong and tender. When cultivated in good soil in the kitchen garden the roots will generally be found in a satisfactory state for forcing, and to have it tender it must always be grown in the dark.

In order to have Seakale properly during the latter part of November, December, and January it is best to lift the roots and force them in a house. After that time they may be forced where they grow by placing pots over the crowns and covering them with a good quantity of hot dung and leaves. For early supplies the roots may be taken up as soon as most of the leaves are decayed. The quantity taken up at one time may be regulated according to the demand. Half a dozen 12-inch potfuls of good roots will furnish several fine dishes when there are ten to twelve roots placed in each pot. When the roots are lifted any long straggling pieces may be cut off, some rough stuff placed at the bottom of the pots, the roots then arranged round the edge, and the centre filled in with a light mixture of loam, Mushroom-bed dung, old leaves, or anything of that kind. The crowns should be a little above the surface of the soil, and the soil should be a little below the rim of the pot. After putting in the roots they should have one good watering, and then they may be placed in their forcing quarters. Whenever this may be they should have a brisk bottom heat to start them into growth in a dark place. Our Mushroom house

is so arranged that the Mushroom beds are along the back of a centre pathway, and the front is one large bed to force such crops as Seakale in. This bed is filled with long litter and leaves to ferment, and it is in this bed that our Seakale is forced. After plunging the pots in the bed nothing more is required until the Kale is ready to be cut, which is about three weeks after the pots are plunged. However, as every person has not a Mushroom house, I may say it may be forced as well in a dark shed, provided the requisite hot dung is placed there. We have made up the hotbed and then planted the roots on the top of it, but this we do not find answer so well as the pot plan.

When one batch of pots are done with they may be put in a cold frame and kept until the weather warrants their being planted in the open quarters again when it is desired to keep the old roots; but we seldom do this, as we prefer bringing forward young plants to coddling up old ones.—A KITCHEN GARDENER.

WINTER BEDDING PLANTS.

WORTHY of much more than the brief notice given in the report of the meeting was the gold-medal collection of miniature hardy shrubs, &c., exhibited by Messrs. James Veitch and Sons at South Kensington on the 15th inst. Such a collection was beautiful in itself, seasonable, suggestive, and instructive. The plants as arranged abundantly demonstrated that gardens need not in winter be destitute of colour, dull, and cheerless, but that flower beds may be made enjoyable, even bright, after the summer and autumn flowers have faded. The tasteful employment of such small Conifers, shrubs, and flowers as were included in the collection under notice are not only capable of rendering flower gardens beautiful during the winter, but the beauty is of a totally different kind from that of summer—a welcome change; a sober, chaste, and enduring beauty, not dependant on sunny days and genial showers, nor on watering, trimming, pegging, or pinching.

It is surprising how cheerful a flower bed on the lawn may be made by the employment of a few dwarf shrubs and Conifers tastefully disposed. Even the association of such a common shrub as the variegated Aucuba with a few feathery Retinosporas or Cupressuses, and the bright or light Euonymuses, will produce an effect at once cheerful and satisfying. Messrs. Veitch's collection contained these and many more winter plants that were distinctly ornamental, and yet the collection was only representative—a small typical example of the resources of the Coombe Wood nursery—a reminder that hardy winter decorative plants are about as plentiful as summer bedders, as varied in character, and in their way as attractive.

The collection included shrubs in various tints of green, some dwarf in habit, some bold, some feathery, others rigid; also shrubs remarkable for their bright variegation, as cheerful in appearance as flowers, and far more durable. Then there were flowering plants in variety and plants bright with berries, each having a beauty of its own and capable of retaining it, for all the plants are hardy.

Perhaps the shrubs with variegated foliage were the more conspicuous, and one of the brightest and quite the boldest of them all was Aucuba japonica limbata. The large foliage of this shrub is broadly banded with creamy yellow. A mass for distant effect would be very telling in large or small beds. Equally bright are the Euonymuses. These are indispensable for winter decoration, and dwarf compactly-grown plants are rarely injured by severe weather. A mass or band of E. japonicus aureo-marginatus is as bright almost as Calceolarias, and equally valuable is the smaller-leaved E. japonicus aureo-variegatus. Then for producing a creamy mass clear and effective is E. japonicus latifolius variegatus, of which it is impossible to speak too highly; and for a silvery line comes E. radicans. For contrast there are the green varieties, but only one can now be named—namely, E. angustifolius, dwarf, elegant, and shining, well adapted for divisional lines or edgings. Other variegated shrubs fine in a small state are the Gold and Silver Queen Hollies; and equally so, distinct and very effective, is Osmanthus ilicifolius argenteo-marginatus. Not to be omitted from this section are the Japanese Ligustrums L. japonicum tricolor, with large foliage and constant in its variegation, and L. ovalifolium elegantissimum, equally constant, elegant, and bright. Of very dwarf plants with yellow foliage are Buxus sempervirens aurea nova; Hedera arborea elegantissima, very compact and bright; H. arborea aurea, clear and bold; and Daphne elegantissima variegata, very clear

in its markings. *Eurya latifolia variegata* and *Eleagnus* were highly effective in the baskets, but they require very sheltered positions in the garden.

Some suitable green-foliaged plants and shrubs for associating with those having variegated foliage were represented by green Boxes, Aucubas, and dwarf Rhododendrons; *Azara microphylla*, elegant; *Veronica Traversii*, light green, attractive; *Sedum thymifolium*, dwarf and distinct; *Cotoneasters* and *Yuccas*. For forming a green carpet under trees were *Hypericum calycinum*, and the still dwarfer berry-producing plant, *Vaccinium Vitis-Idæa*.

Of flowering plants, most of them already flowering profusely and others in an advanced state, *Rhododendron Early Gem* is one of the most valuable of plants for in or outdoor decoration in early spring; *Andromeda floribunda* and *Catesbei*, *Veronica salicifolia*, dwarf *Laurustinus*; *Diplopappus chrysophyllus*, slender and Heath-like with white flowers; and the Heaths themselves. Most beautiful amongst these were the *Menziesias polifolia atropurpurea* and *erecta alba*, both highly attractive, the latter especially so; also *Ericas herbacea*, *mediterranea*, *vulgaris* in variety, *vagans*, *carnea*, and the dwarf and distinct *Mackayana*.

Amongst berried plants were *Skimmia japonica*, *Aucuba japonica vera*, dwarf and densely cropped; and the crimson *Pernettya mucronata*, all alike very ornamental. Besides the plants above named were the indispensable Conifers for imparting both grace and colour to the arrangement. Small plants of *Retinosporas*, *Cupressuses*, and *Junipers* are most valuable for various purposes of decoration in winter. Some are noteworthy for their bright colours, as *Cupressus Lawsoniana aurea* and *Retinospora obtusa aurea*; some are silvery, some green, some again elegant and feathery, others compact, but all ornamental and adapted for various purposes and positions. A few of special merit in this section were *Cupressus Lawsoniana aureo-variegata*, *albo-variegata*, *fragrans*, *lutea*, *argentea*, *erecta viridis*, *nana glauca*, *alba spica*, *macrocarpa*, *thyoides variegata*, *Nutkaensis* and *N. variegata*; *Cryptomeria elegans*; *Juniperus japonica aurea*, *japonica aureo-variegata*, *excelsa stricta*, and *Sabina variegata*; *Retinosporas obtusa aurea*, *leptoclada*, *ericoides*, *squarrosa*, *plumosa*, *pl. aurea*, *pl. argentea*, and *pl. albo-picta*; *Taxus baccata aurea* and elegantissima, *Biota orientalis aurea* and *semper-aurea*, *Thujopsis dolabrata*, and *Thuja Lobbi*.

Such were the more important of the plants included in the collection, and which are not only valuable for garden decoration in winter, but equally so for window sills and balconies in town and country. With plants of the nature of those enumerated there is no excuse for empty flower beds in winter except empty pockets, and yet the plants are by no means costly, especially when it is considered that they increase in value year by year if well managed.—J. WRIGHT.

TOMATOES.

In a late issue of the Journal it is stated that the Tomatoes in the market gardens about Fulham are very badly diseased; it is also the case with me, although not to the extent as stated to be there. The disease did not make its appearance till the forward fruit was fully grown, and it certainly bears a strong resemblance to the Potato disease, but whether it is the same disease or not I have never seen stated. I also find that it attacks some kinds more than others. The position outdoors and atmospheric changes make a difference. Cultural details were ably given lately, so it is unnecessary for me to enter into that; but this disease is rather a serious matter, so it would do no harm if cultivators of this plant would state their experience of it.

Early last June about 250 plants were put out here; 200 in the open to be trained to stakes $3\frac{1}{2}$ to 4 feet long, the rest being planted against the walls in vacant places between the fruit trees. All were strong and healthy when planted; they were a foot in height, and just showing their first flower truss. The varieties were Orangefield, Green Gage, and Hathaway's Excelsior, the majority of the plants being of the variety last named, which is one of the best sorts I am acquainted with. Being showery weather at the time of planting no water was given, nor has any been given since. The ground was rich and well pulverised, and the plants grew very luxuriantly, and weekly pinchings-out of the young side shoots and cutting away of all superfluous growth beyond the fruit were necessary, as one straight stem to a stake is quite sufficient. The plants on the walls were allowed to branch, and they were nailed

up as required, but all growths which were not wanted were suppressed.

The disease made its appearance first on the Orangefield variety, before the fruit began to colour; a week or so afterwards the Green Gage was badly infected with it, and at the present time all three kinds have it, but Orangefield and Green Gage are by far the worst. This applies to the plants in the open tied to the stakes, and out of 2 cwt. of fruit ripened from them one-fourth part has been thrown away diseased, some fruit slightly, and others infested all over.

From the fifty plants against the walls having south and



Fig. 50.—*Erica mammosa* (see page 315.)

south-east aspect only two fruits, or about half a pound in weight, have been bad; thus showing that although plenty of fruit may be grown without walls the produce can be depended on more with them, and although there are at present a great many left on them not a trace of disease is perceptible, but within 100 yards from them in the open it spreads very rapidly, especially after rain. This, I think, proves that a dry atmosphere is necessary for the ripening of Tomatoes, and when they are grown against walls showers sometimes do not touch the plants.

A three-light frame with boards at the bottom has been used for ripening the fruit, cutting them from the plants as they showed signs of colouring; a little air has been left on night and day to keep the atmosphere dry. Treated thus the fruit has ripened perfectly.

The plants trained to the stakes were 3 feet apart each way,

but all superfluous growths were thinned so as not to touch each other: had they been 5 or 6 feet apart probably a more free circulation of air about them would have helped to check the disease. Hathaway's Excelsior is an excellent Tomato, being very prolific, and having smooth, handsome, and highly coloured scarlet fruit.—A. HARDING.

DRESSING CARNATIONS.

It is now nearly thirty years since Carnation growers in the north commenced to exhibit their flowers on cards, and I well remember the observations that were made at that time by those who had not done so. This was at a provincial show where I used usually to put in an appearance. It was somewhat strange that the year after, at the exhibition held at the same place, those who had objected the year before exhibited their flowers on cards. One of them, an old and esteemed friend of mine long since dead, said to me that it was no use standing out against what was called at that time the "London fashion," as it was an improvement, and as such was sure to become general. How true his observation was everyone knows; and I believe that I am not wrong in saying that if the votes of Carnation growers and exhibitors (who ought to know best) were taken as to the advisability of dispensing with the card and dressing, they would be nearly unanimous in favour of both cards and dressing.

I see that "WYLD SAVAGE" has answered my questions in the *Journal of Horticulture*, but if he does not dress Roses does no one else do so? and as to exhibiting them, do not a great many exhibitors show them on a bed of moss? And this is done simply because the moss acts as a foil to the Rose and makes the flower appear finer than it otherwise would do if shown on a board. Consequently the moss is to the Rose what the card is to the Carnation.

As to dressing, I consider that to remove an outside petal (decayed or stained) is as much dressing to the Rose as turning back the calyx of a Carnation or pulling out a self petal.

With respect to those who can grow Carnations but not dress them, I am afraid their flowers if put into the hands of the most experienced dresser would be unable to win at an exhibition. The art, if art it must be called, is so simple that let anyone try with even a skewer there is no doubt but some improvement will be made in a flower.

With regard to Mr. Douglas not dressing his Carnations, knowing him well and intimately I can say without fear of contradiction that he can and does dress his own flowers; but when a man has to exhibit, as I have known Mr. Douglas do, about two hundred blooms, it is utterly impossible for one pair of hands to get through that quantity and have them fit. Consequently Mr. Douglas does, as others do, presses anyone who may be present to assist him so far as they can. I well remember an instance that occurred where four or five of us were staying for one of the National exhibitions. My friend had his flowers all dressed and in the stand ready for the exhibition next day. He placed them in the drawing-room. Of course there was any amount of visitors to see the flowers, and I am not sure if the gas was not lighted—the night was warm; the result was that fully one-half of the flowers withered up. In the early morning my friend cut another lot of flowers and was able to get them ready with some little assistance, without which he would have been unable to make up the number of flowers he wanted. In dressing I have frequently timed myself to see how long it takes to dress a flower, and found that the average time taken is ten minutes per flower. This being the case, where an exhibitor has upwards of two hundred flowers to stage he is compelled to have some assistance to get them ready.

The flower which was premier at Manchester was a fine Rose, and when cut was too young to dress, young flowers being difficult to manipulate owing to the brittleness of the petals and their tendency to split when touched. There was some dispute by one or two as to whether it or a flower in Mr. Booth's stand was best, but the decision was in its favour. After being judged the cutter florist dressed it and brought out the hidden beauties, when there was no cavilling as to its being the best flower in the exhibition. As to gum being used to the Carnation I never saw it, and, in fact, I do not know what use it could be put to. I have seen it used to Verbenas, which I suppose is the mode in which they are dressed.

A botanist friend of mine some twenty years ago used to say that all florists' flowers were monstrosities, and, of course, would not grow any of them, but preferred a common Dog

Rose or a single Carnation to the lot. However, as time passes on it brings changes. My friend is a florist; he has grown Carnations, Picotees, Auriculas, and Pansies; lack of room only prevents him from growing more. Of those who cavil so much at the dressing of the Carnations and Picotees I can only say this, Let them become growers, and I for one fully believe that they will become dressers. They will procure a pair of ivory tweezers and placing them and a flower together; they are so easy to handle, and the flower looks so much better for having the best petals made to show themselves, that the grower who has a good flower would, in my opinion, be very foolish not to show it to the best advantage.—GILLYFLOWER.

THE ROSE ELECTION.—No. 5.

IN the following returns of seventy-two varieties the Roses are placed as the first best twelve, second best twelve, next best twenty-four, and second best twenty-four exhibition varieties.

Messrs. KEYNES & Co., Salisbury.

- | | |
|----------------------------|-------------------------------|
| 1. Marie Baumann | 7. La France |
| 2. Alfred Colomb | 8. Baronne de Rothschild |
| 3. Charles Lefebvre | 9. Reynolds Hole |
| 4. Duchesse de Vallombrosa | 10. Xavier Olibo |
| 5. François Michelin | 11. Niphotos |
| 6. Horace Vernet | 12. Marguerite de St. Amand |
| 13. Auguste Rigotard | 19. John Hopper |
| 14. Comtesse d'Oxford | 20. Louis Van Houtte |
| 15. Dr. Andry | 21. Madame C. Wood |
| 16. Duke of Edinburgh | 22. Mdle. Eugénie Verdier |
| 17. Etienne Levat | 23. Souvenir d'Elise |
| 18. Ferdinand de Lesseps | 24. Souvenir d'un Ami |
| 25. Beauty of Waltham | 37. La Rosière |
| 26. Camille Bernardin | 38. Lord Macaulay |
| 27. Capitaine Christy | 39. Madame Lacharme |
| 28. Comtesse Serenye | 40. Madame Victor Verdier |
| 29. Duc de Rohan | 41. Mdle. Marie Cointet |
| 30. Duc de Wellington | 42. Mdle. Marie Raby |
| 31. Dupuy Jamain | 43. Marguerite Brassac |
| 32. Elie Morel | 44. Marquise de Castellane |
| 33. Felix Genaro | 45. Monsieur Noman |
| 34. Fisher Holmes | 46. Monsieur E. Y. Teas |
| 35. Jean Liabaud | 47. Pierre Notting |
| 36. John Stuart Mill | 48. Royal Standard |
| 49. Anna de Diesbach | 61. Madame C. Joigneaux |
| 50. Baron de Bonstetten | 62. Madame Hippolyte Jamain |
| 51. Maréchal Niel | 63. Madame Prosper Langier |
| 52. Marie Van Houtte | 64. Madame Vidot |
| 53. Centifolia Rosea | 65. Madame Vigneron |
| 54. Comte de Nanteuil | 66. Marie Louise Pernet |
| 55. Edouard Morren | 67. Monsieur Gabriel Tournier |
| 56. Emilie Hansburg | 68. Pitord |
| 57. Madame Sertor | 69. Reine du Midi |
| 58. Perle des Jardins | 70. Sénateur Vaisse |
| 59. Général Jacqueminot | 71. Star of Waltham |
| 60. Jean Souperet | 72. Antoine Ducher |

Mr. C. TURNER, Royal Nurseries, Slough.

- | | |
|-----------------------------|-------------------------------|
| 1. Abel Carrière | 7. François Michelin |
| 2. Alfred Colomb | 8. La France |
| 3. Baronne de Rothschild | 9. Louis Van Houtte |
| 4. Charles Lefebvre | 10. Maréchal Niel |
| 5. Comtesse d'Oxford | 11. Marie Baumann |
| 6. Etienne Levat | 12. Penelope Mayo |
| 13. Camille Bernardin | 19. Monsieur Noman |
| 14. Catherine Mermiet | 20. Royal Standard |
| 15. Devienne Lamy | 21. Reynolds Hole |
| 16. Devoniensis | 22. Sénateur Vaisse |
| 17. Horace Vernet | 23. Souvenir d'Elise |
| 18. Marquise de Castellane | 24. Xavier Olibo |
| 25. Black Prince | 37. Mdle. Eugénie Verdier |
| 26. Comtesse de Serenye | 38. Mdle. Marie Raby |
| 27. Duchesse de Vallombrosa | 39. Mdle. Marguerite Dombrain |
| 28. Duke of Edinburgh | 40. Mdle. Thérèse Levat |
| 29. Ferdinand de Lesseps | 41. Marguerite de St. Amand |
| 30. Dean of Windsor | 42. Miss Hassard |
| 31. Duchesse de Morny | 43. Monsieur E. Y. Teas |
| 32. La Rosière | 44. Niphotos |
| 33. Le Havre | 45. Pierre Notting |
| 34. Richard Laxton | 46. Rev. J. B. M. Camm |
| 35. Madame Lacharme | 47. Sir Garnet Wolsley |
| 36. Madame Victor Verdier | 48. Star of Waltham |
| 49. Abel Grand | 61. Alba Rosea |
| 50. Annie Laxton | 62. Avocat Duvivier |
| 51. Beauty of Waltham | 63. Dr. Andry |
| 52. Jean Liabaud | 64. John Stuart Mill |
| 53. Madame H. Jamain | 65. Madame Huzard |
| 54. Madame Willermoz | 66. Madame Verlot |
| 55. Nardy Frères | 67. Oxonian |
| 56. Princess Beatrice | 68. Souvenir de la Malmaison |
| 57. Souvenir de Spa | 69. Sultan of Zanzibar |
| 58. Victor Verdier | 70. Ville de Lyon |
| 59. Villaret de Joyeuse | 71. Lelia |
| 60. Marie Louise Pernet | 72. François Louvat |

Mr. PIPER, The Nurseries, Uckfield.

1. Marie Baumann
2. Charles Lefebvre
3. Maréchal Niel
4. François Michelin
5. Louis Van Houtte
6. Baronne de Rothschild
13. La France
14. Duchesse de Vallombrosa
15. Dr. Andry
16. Monsieur E. Y. Teas
17. Emilie Hausburg
18. Beauty of Waltham
25. Marie Louise Pernet
26. Duke of Edinburgh
27. Horace Vernet
28. Marguerite de St. Amand
29. Capitaine Christy
30. Duc de Montpensier
31. Catherine Mermet
32. Star of Waltham
33. Camille Bernardin
34. Joséphine Malton
35. Elie Morel
36. John Stuart Mill
49. Lord Macaulay
50. Madame Lacharme
51. Nardy Frères
52. Paul Neyron
53. Sénateur Favre
54. Paul Verdier
55. Marguerite Brassac
56. Annie Wood
57. Royal Standard
58. Hippolyte Jamain
59. John Hopper
60. Black Prince
7. Monsieur Noman
8. Souvenir d'Elise Vardon
9. Etienne Levot
10. Alfred Colomb
11. Marquise de Castellane
12. Mdlle. Eugénie Verdier
19. Abel Carrière
20. Madame S. Fropot
21. Marie Rady
22. Duke of Connaught
23. Souvenir d'un Ami
24. Comtesse de Serenye
37. Madame Victor Verdier
38. Annie Laxton
39. Maurice Bernardin
40. Fisher Holmes
41. Niphetos
42. Général Jacqueminot
43. Devoniensis
44. Sir Garnet Wolseley
45. Victor Verdier
46. Sénateur Vaisse
47. Madame Vidot
48. Edouard Morren
61. Louise Peyronny
62. Madame Hunnebell
63. Monsieur G. Tournier
64. Marguerite Dombrain
65. Pierre Notting
66. Madame Berard
67. Madame F. Jamain
68. Princess Beatrice
69. Thomas Mills
70. Belle Lyonnaise
71. Madame P. Langier
72. Xavier Olibo

Mr. B. R. CANT, Colchester.

1. Alfred Colomb
2. Baronne de Rothschild
3. Charles Lefebvre
4. Ferdinand de Lesseps
5. François Michelin
6. Horace Vernet
13. Comtesse d'Oxford
14. Duc de Wellington
15. Duke of Edinburgh
16. Fisher Holmes
17. Louis Van Houtte
18. Star of Waltham
25. Dr. Andry
26. Duchesse de Vallombrosa
27. Dupuy Jamain
28. Elie Morel
29. Emilie Hausburg
30. François Louvat
31. Madame Hippolyte Jamain
32. Madame C. Crapelet
33. Madame Victor Verdier
34. Madame Nachury
35. Marquise de Castellane
36. Monsieur E. Y. Teas
49. Abel Carrière
50. Abel Grand
51. Annie Laxton
52. Antoine Ducher
53. Beauty of Waltham
54. Black Prince
55. Comtesse de Serenye
56. Duchesse de Caylus
57. Général Jacqueminot
58. Gloire de Vitry
59. Hippolyte Jamain
60. John Hopper
7. La France
8. Marguerite de St. Amand
9. Marie Baumann
10. Devoniensis
11. Maréchal Niel
12. Souvenir d'Elise
19. Duchesse de Morzy
20. Madame Charles Wood
21. Madame Marie Finger
22. Mdlle. Marie Rady
23. Etienne Levot
24. Niphetos
37. Monsieur Noman
38. Piford
39. Pierre Notting
40. Princess Beatrice
41. Reynolds Hole
42. Sénateur Vaisse
43. Ville de Lyon
44. Xavier Olibo
45. La Boule d'Or
46. Madame Willermoz
47. Rubens
48. Souvenir d'un Ami
61. Le Havre
62. Madame Georges Schwartz
63. Madame Lacharme
64. Mdlle. Marie Cointet
65. Marquise de Mortenart
66. Etienne Dupuy
67. Prince Camille de Rohan
68. Sophie Coquerelle
69. Victor Verdier
70. Catherine Mermet
71. Comtesse de Nadaillac
72. Marie Van Houtte

Mr. GEORGE DAVISON, Hereford.

1. Marie Baumann
2. Alfred Colomb
3. Maréchal Niel
4. François Michelin
5. Etienne Levot
6. Horace Vernet
13. Xavier Olibo
14. Marquise de Castellane
15. Charles Lefebvre
16. Mdlle. Eugénie Verdier
17. Catherine Mermet
18. Marguerite de St. Amand
25. Duchesse de Vallombrosa
26. Jean Liabaud
27. Dr. Andry
28. Duc de Wellington
29. Mdlle. Marie Rady
30. Comtesse de Serenye
31. Duc de Montpensier
32. Fisher Holmes
33. Madame Marie Cointet
34. Devoniensis
35. Madame Charles Wood
36. Maurice Bernardin
7. Baronne de Rothschild
8. La France
9. Louis Van Houtte
10. Marie Van Houtte
11. Sénateur Vaisse
12. Madame Victor Verdier
19. Duke of Edinburgh
20. Monsieur Noman
21. Reynolds Hole
22. Capitaine Christy
23. Dupuy Jamain
24. Comtesse d'Oxford
37. Marguerite Brassac
38. Souvenir d'un Ami
39. Madame Charles Crapelet
40. Sir Garnet Wolseley
41. Duke of Connaught
42. Abel Carrière
43. Pierre Notting
44. Niphetos
45. Princess Beatrice
46. Monsieur E. Y. Teas
47. Emilie Hausburg
48. Camille Bernardin

49. Hippolyte Jamain
50. Annie Laxton
51. Lord Macaulay
52. Beauty of Waltham
53. Duchesse de Morny
54. John Hopper
55. Annie Wood
56. Princess Mary of Cambridge
57. Madame Lacharme
58. Alba Rosea
59. Souvenir d'Elise
60. Gloire de Dijon

Mr. G. PRINCE, The Nurseries, Oxford.

1. Maréchal Niel
2. Marie Baumann
3. Alfred Colomb
4. Charles Lefebvre
5. Emilie Hausburg
6. Comtesse de Serenye
13. Annie Wood
14. Devienne Lamy
15. Madame Victor Verdier
16. François Michelin
17. Capitaine Christy
18. Duchesse de Vallombrosa
25. Duc de Rohan
26. Mdlle. Marie Rady
27. Duke of Edinburgh
28. Dr. Andry
29. Sénateur Vaisse
30. Xavier Olibo
31. Souvenir d'Elise Vardon
32. Marquise de Castellane
33. Marie Louise Pernet
34. Duke of Connaught
35. Souvenir de Madame Pernet
36. Mdlle. Marie Cointet
49. Antoine Ducher
50. Baron Haussmann
51. Baron de Bonstetten
52. Beauty of Waltham
53. Clemence Raout
54. Comtesse d'Oxford
55. Duchesse de Caylus
56. Duc de Wellington
57. Edouard Morren
58. Elie Morel
59. Fisher Holmes
60. Général Jacqueminot
7. Sophie Fropot
8. Louis Van Houtte
9. Horace Vernet
10. Baronne de Rothschild
11. Etienne Levot
12. Catherine Mermet
19. Marguerite de St. Amand
20. Reynolds Hole
21. Auguste Rigotard
22. Dupuy Jamain
23. Monsieur E. Y. Teas
24. Star of Waltham
37. Perle des Jardins
38. Jean Ducher
39. John Hopper
40. Ferdinand de Lesseps
41. Prince Camille de Rohan
42. Camille Bernardin
43. Hippolyte Jamain
44. La France
45. Marie Van Houtte
46. Madame Georges Schwartz
47. Mdlle. Marie Finger
48. Duchesse de Morny
61. La Havre
62. Lord Macaulay
63. Madame C. Wood
64. Madame Hippolyte Jamain
65. Madame Lacharme
66. Madame Lefebvre Bernard
67. Madame Thérèse Levot
68. Victor Verdier
69. Monsieur Noman
70. Nardy Frères
71. Rev. J. B. M. Camm
72. Souvenir de Monsieur Bole

Mr. HENRY CURTIS, Torquay.

1. Alfred Colomb
2. Baronne de Rothschild
3. Charles Lefebvre
4. Etienne Levot
5. François Michelin
6. Ferdinand de Lesseps
13. Catherine Mermet
14. Comtesse d'Oxford
15. Comtesse de Serenye
16. Devoniensis
17. Duchesse de Vallombrosa
18. Dupuy Jamain
25. Abel Carrière
26. Annie Wood
27. Auguste Rigotard
28. Beauty of Waltham
29. Camille Bernardin
30. Capitaine Christy
31. Dr. Andry
32. Duke of Edinburgh
33. Duc de Wellington
34. Edouard Morren
35. Horace Vernet
36. John Hopper
49. Alba Rosea
50. Amelie Hoste
51. Antoine Ducher
52. Annie Laxton
53. Baron de Bonstetten
54. Belle Lyonnaise
55. Elie Morel
56. Emilie Hausburg
57. Gloire de Dijon
58. Marguerite Brassac
59. Monsieur Noman
60. Madame C. Joigneaux
7. La France
8. Louis Van Houtte
9. Maréchal Niel
10. Madame Victor Verdier
11. Marguerite de St. Amand
12. Marie Baumann
19. Marie Van Houtte
20. Marquise de Castellane
21. Mdlle. Marie Rady
22. Reynolds Hole
23. Souvenir d'Elise
24. Victor Verdier
37. Lelia
38. Le Havre
39. Madame Charles Wood
40. Mdlle. Marie Finger
41. Mdlle. Marie Cointet
42. Niphetos
43. Prince Camille de Rohan
44. Pierre Notting
45. Penelope Mayo
46. Sénateur Vaisse
47. Souvenir d'un Ami
48. Sir Garnet Wolseley
61. Madame H. Jamain
62. Madame Willermoz
63. Madame Lacharme
64. Mrs. Baker
65. Monsieur E. Y. Teas
66. Princess Mary of Cambridge
67. Princess Beatrice
68. Rubens
69. Star of Waltham
70. Sultan of Zanzibar
71. Xavier Olibo
72. Bessie Johnson

** Messrs. PAUL & SON, Cheshunt.*

1. Alfred Colomb
2. Etienne Levot
3. Exposition de Brie
4. François Michelin
5. Horace Vernet
6. La France
13. Monsieur Noman
14. Baronne de Rothschild
15. Camille Bernardin
16. Dr. Andry
17. Duke of Edinburgh
18. Jean Liabaud
7. Marie Baumann
8. Charles Lefebvre
9. Reynolds Hole
10. Maréchal Niel
11. Souvenir d'Elise
12. Mrs. Laxton
19. Duchesse de Morny
20. Marquise de Castellane
21. Henri Ledechaux
22. Marie Van Houtte
23. Emily Laxton
24. Duke of Connaught

25. Madame Hippolyte Jamain
26. Princess Mary of Cambridge
27. Abel Carrière
28. Abel Grand
29. Marguerite de St. Amand
30. Beauty of Waltham
31. Capitaine Christy
32. Centifolia Rosea
33. Devienne Lamy
34. Duchesse de Vallombrosa
35. Elie Morel
36. Louis Van Houtte

37. Madame Lacharme
38. Madame Victor Verdier
39. Mlle. Eugénie Verdier
40. Marie Raby
41. Mrs. G. Paul
42. Olivier Dellhomme
43. Star of Waltham
44. Sultan of Zanzibar
45. Xavier Olibo
46. Boule d'Or
47. Comtesse de Nadaillac
48. Catherine Mermet

49. Comtesse de Serenye
50. Duc de Rohan
51. Edouard Morren
52. Général Jacqueminot
53. John Hopper
54. La Rosière
55. Le Havre
56. Lord Macaulay
57. Mlle. Marie Cointet
58. Madame Charles Wood
59. Nardy Frères
60. Pierre Notting

61. Prince Arthur
62. Sénateur Vaisse
63. Victor Verdier
64. Annie Wood
65. Dupuy Jamain
66. Jean Ducher
67. Devoniensis
68. Niphotos
69. Alba Rosea
70. Anna Olivier
71. Souvenir de la Malmaison
72. Princess Beatrice

* The first twelve are those which we would select supposing each Rose could be had in its best form on the same day.

NOTES AND GLEANINGS.

NATIONAL ROSE SOCIETY.—A meeting of the General Committee was held at the rooms of the Horticultural Club, Arundel Street, Strand, on the 22nd inst., the Rev. Canon Hole in the chair, when the Hon. Treasurer (Mr. W. Scott) submitted his accounts, showing a balance in favour of the Society. The dates for the exhibitions for 1879 were fixed, subject to the approval of the annual meeting. The first show is to be held at the Crystal Palace on June 28th, the second at Manchester on July 14th. It was also arranged that a paper of instructions on Rose-growing should be drawn up and widely distributed. It was announced that the "Rosarians' Year Book" would be issued, as last year, independently of the Society.

— AFTER an extraordinary term of dry autumnal weather in the neighbourhood of the metropolis, which has rendered street watering necessary and garden watering incumbent, a refreshing shower fell on Monday night. So dry had the soil become that we have seen such shrubs as Aucubas, Euonymuses, and Rhododendrons, where planted in proximity to large trees, with flaccid leaves and drooping shoots as if they were suffering from the drought of July instead of that of October. The rain has proved very welcome for such shrubs, also for accelerating the establishment of the recently planted autumn crops of Cabbages, Lettuces, &c., which were almost in a standstill state.

— A CURIOUS case of DICHROISM has occurred on a plant of the Dahlia in the garden of the Rev. R. H. Webb of Essendon, the author of the "Flora Hertfordiensis." The plant is a very old variety of double Dahlia, the flowers of which are yellow. This year one of the early blooms showed some red florets round the base, all the others being yellow as usual; but now a perfectly dark maroon flower has been produced on the same stalk as one entirely of the normal colour. Mr. Webb informs us that during the great number of years he has grown this variety no such occurrence has taken place before. Such instances are not rare in the Chrysanthemum, but we have never known it in the Dahlia till now.

— MESSRS. JAMES CARTER & Co. have been awarded FIVE GOLD MEDALS at the Paris Exhibition—namely, for seeds and a general collection of typical horticultural and agricultural produce, for lawns and Potatoes. Four of the medals are recorded in the official list of awards to exhibitors—the only record in the list of four similar medals being granted to any exhibitor—the fifth being mentioned in the French "Journal Officiel": the firm, therefore, have good reason to be satisfied with the result of their enterprise at the Great Exhibition.

— IN the garden of Dr. Rogers, the Warden of Sackville College, East Grinstead, there are several strong healthy plants of EUCALYPTUS GLOBULUS out of doors which have stood without protection for some years, and promise to become large handsome trees.

— NOTEWORTHY in Messrs. Veitch's collection of fruit arranged at the last meeting of the Royal Horticultural Society, yet not noticed in our report, were some tempting dishes of AUTUMN RASPBERRIES Belle de Fontenay, large, highly coloured, and excellent; Large Red Monthly, also good; and

the October Yellow. Autumn Raspberries are so useful and continue in use for so long that it is somewhat surprising that they are not more generally cultivated. We lately saw in Lord Londesborough's garden at Norbiton a fine quarter of Raspberries from which Mr. Denning has been gathering daily for months, he having sent many hundreds of fine dishes to the family which have been highly appreciated. Mr. Denning considers this one of the most useful of crops in affording a continuous and acceptable supply of fruit for tarts, and occasionally for dessert, for a large family.

— A CORRESPONDENT, "G. C.," asks if cultivators will give their experience with the LORD PALMERSTON PEACH grown in pots in unheated orchard houses. He had a good tree in a pot which ripened thirteen Peaches fine to look at, but they were tough and altogether uneatable. Our correspondent further asks if any special treatment is requisite to have this Peach in good condition.

— ONE of the most useful Fuchsias that we have seen for a long time is BLUSHING BRIDE. Unlike many varieties which are remarkable for their fine flowers the one under notice is of extremely free growth. Feed it well and it will produce fine sprays of flowers for cutting for vase ornamentation, while for conservatory decoration it is one of the most free in growth that has come under our notice. In habit it is erect, yet short-jointed and sturdy. It is a light variety, the sepals being white and corolla scarlet. When grown as we lately saw it in Mr. Cannell's nursery it is one of the most serviceable decorative Fuchsias in cultivation.

— MR. IGGULDEN writes to us as follows relative to a SECOND CROP OF PLUMS in Essex:—"In a preceding number mention is made by me of the extraordinary crop of Victoria Plums in this district. Since then the trees have produced a second crop consisting of several pecks of useful fruit. This was the case last season, but the crop was much smaller. Knowing from experience that they would not ripen, they were gathered and used in a green state. This phenomenon is attributed to the extremely hot and dry weather experienced during June and July, causing a premature ripening of the wood; the very humid August following had the very undesirable effect of causing the trees to bloom a second time. Pears frequently perfect a second crop of small fruit, but with Plums this is seldom the case."

— A VERY bright and cheerful display of ORCHIDS is arranged in one of the houses in Messrs. Rollisson's Nursery at Tooting. Numerous and highly attractive are the Calanthes vestita Veitchii and lutea; very fine are the Vandas, especially V. tricolor meleagris. There are also good examples of Odonoglossum varicosum, crispum, bigibbum, and incurvum, with Odonoglossum Roelzii, Pleione, and Cattleya marginata. In the nursery a bed of Anemone japonica alba is a mass of purity, and affords good evidence that this Anemone is one of the most valuable of late hardy-flowering plants.

— THE prolonged term of dry weather has had the effect of ripening THE GROWTHS OF CHRYSANTHEMUMS more fully than usual, and fine displays of this valuable autumn flower are being anticipated at the approaching shows. The plants in the Temple Gardens, London, are arranged under the temporary glass erection. The early varieties are just expanding; and although too early to judge of the individual merits of the flowers, it is not too soon to perceive that the display as a whole will sustain the repute of the gardens and Mr. Newton's skill as a cultivator.

— SWEET CHESTNUTS, writes Mr. Iggulden, "are plentiful and good this year. I have collected a quantity for use in the dining-room. The cook nips off their points, boils them till they are soft, then bakes them till they are dry, and when thus treated are delicious."

— A CORRESPONDENT writing from county Down on HYDRANGEAS IN THE OPEN AIR, states that for ten years his plants all died down from the frosts and shot up again in the spring, but never flowered. For three years he has covered each plant with poles and Spruce Fir branches, and they now flower luxuriantly every year—some with 130 trusses of bloom on each plant.

— WE are informed that the CELERY FLY has been unusually destructive this autumn in many of the market gardens of Fulham, notably those in the Thames valley, where the plants are almost devoured by the grubs. On this account many acres of Celery are being dug and hurried into the market as rapidly as possible, as it is considered that the crop

will deteriorate rather than improve if left in the ground now that the plants are nearly divested of their foliage. The unusual destructiveness of the fly is attributable to the remarkably dry weather that has so long prevailed.

— In the "Gardener" "ALBION" asserts that the laying of short grass between the rows of Carrots is a sure preventive against the CARROT GRUB. The system was adopted, writes "ALBION," "twenty years ago with the best results, the Carrot grub being unknown in the gardens where I was apprenticed. In a large garden in Banffshire, where the soil is light and poor, and the grub a continual pest among the Carrots, I advised the use of short grass between the rows, and a splendid lot of clean straight Carrots was the result. Since I have had the charge of a garden it has always been my practice to mulch

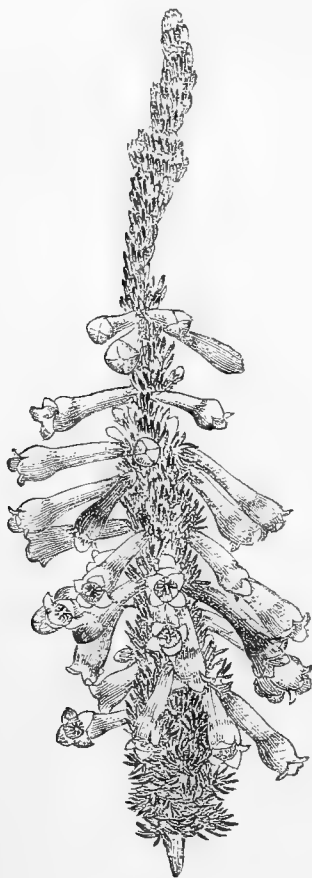


Fig. 51.—*Erica colorans* (see page 315).

heavily with short grass between the rows of Carrots as soon as the young plants are large enough not to be smothered with it, and I have always been able to store a clean lot. This year no grub has yet been seen, and some Carrots that I have pulled were quite 18 inches long. The Early Horns under the same treatment are clean and as good as anyone can wish. I am of the opinion that the grass keeps the ground moist, prevents the ingress of air, and makes the ground unsuitable for the grub to live; and the strong growth the Carrots themselves make under this treatment supplies a permanent shade, so that the soil about them can never get dry."

DOES THE MANETTI STOCK THROW UP SUCKERS?

In the notes on Slough by "WYLD SAVAGE" Mr. Gayter is reported to say that seedling Briars are worse for suckers than Manettis. I will again issue a challenge I gave one evening to some rosarians at the time of the Bath Royal Horticultural Show. I will venture to say a Manetti never produced a true sucker, and that in all cases so-called suckers are merely eyes left in the cutting of the Manetti stock. The Manetti, in short,

does not produce, like the Dog Rose, suckers from underground; roots coming up like fresh plants from the end of other roots, as we see in Plums, Peaches, &c., grafted on the Plum stock. Currants and Gooseberries, again, are supposed to make suckers, but my experience is they are invariably from buds under ground in the stock, and not like Raspberries, which form true suckers. I have never yet seen a true Manetti sucker, though I have seen plenty of underground shoots from the stem. When anyone will send me a root sucker I shall be willing to give up the point. I make this distinction: a sucker is like the wild growth of the Dog Rose, the Snowberry, or *Berberis aquifolium*, &c., a shoot rising from a root pushed from the parent plant, and not a shoot from the stem. I have seen suckers from a standard Rose coming up 4 feet from the stem with an intermediate underground root. I have seen Plum stocks send up shoots 8 to 10 feet from the stock; these are true suckers. Manetti suckers so-called, otherwise Manetti shoots, arise from mere oversight, or carelessness, or ignorance, or all three. I once saw in a nobleman's garden a bed of *Géant des Batailles* which I was called upon to admire for its growth, but asked why it did not bloom. I asked my noble lord if I might have a strong pair of scissors and a knife, and after cutting show him how much *Géant des Batailles* there was left. This was before breakfast one cricketing morning. I reduced the bed to *Géant des Batailles*, and the gardener's face was long and woebegone after breakfast. This is, I am afraid, an old tale, but literally more than three-fourths of the bed, and of course the strongest shoots, were Manetti, because the eyes had never been cut out nor the stems buried. I once again saw twelve named Roses sent to a neighbour, a baronet's gardener, who showed them me in glee as fine novelties to bud. Ten out of the twelve were cut from Manetti stock. The gardener would not believe me, but I told him to strike them instead, and not waste his stocks upon them; and next year he was obliged to allow they were very good stocks to bud on. I happened to see the Roses from which these presented cuttings to bud from were taken, and I found them a very healthy forest of Manetti. But these are days gone by, and very few gardeners are now taken in by Manetti shoots, though plenty are still taken in by the seedling Briar.—C. P. PEACH.

MELONS.

"A READER" wishes to have the names of the twelve best Melons, new or old, as to quality, and the names of the winning varieties of the year, particularly those at the Crystal Palace Show, September 24th and 25th, and also desires to know what a good Melon should be.

In reply it is necessary to premise that Melons are judged solely by flavour; size, weight, and appearance go for little, and what constitutes a good Melon can only be known to each individual, inasmuch as the palate differs in the same person from day to day; therefore, we can only say that Melon-judging is like tea-tasting, it requires adepts to detect high flavour—superiority of quality. There is, however, means of arriving at the quality of Melons by a comparison of them with varieties known to be of approved excellence, the flavour of which once implanted on the palate is so impressed on the memory as to be capable of detection whenever it recurs. Judging Melons by flavour is not, as some allege, a farce; but as appearance and superiority of cultivation have no influence in determining their merits, the person or persons adjudicating might as well make the awards blindfold. The ordeal of having to test the quality of three or more dozens of fruit when a glance at the exhibits would satisfy an experienced grower that first, second, and third rested with half a dozen fruit is simply needless. Quality by frequent and extensive testing enables the palate to estimate the values of the varieties subjected to it according to an admitted standard. For instance, Green Gage in Plums, Moor Park in Apricots, Noblesse in Peaches, May Duke in Cherries, Seckle in Pears, Ribston Pippin in Apples, Muscat of Alexandria in Grapes, and Queen in Pine Apples, have left their several impressions upon the palate, and by which other varieties may be judged by the standard there implanted.

It is similar with Melons. Richness of flavour is implanted on the palate by comparative testing and long usage. Anyone, therefore, to judge Melons or other fruit by flavour must have passed in review old as well as kinds at present cultivated, or he will not be in a position to pronounce a correct verdict.

A selection of the best dozen Melons:—*Scarlet-flesh*: Read's

Hero of Bath, Conqueror of Europe, and Bloxholm Hall. *Green-flesh*: Bromham Hall, Eastnor Castle, A. F. Barron, and Exquisite. *White-flesh*: Colston Basset, Cox's Golden Gem, Meredith's Hybrid Cashmere, and Queen Emma. All exceed 2 lbs. in weight. To a Melon of less weight we would not award a prize, nor test them when shown for flavour; miserable, ill-shaped, badly-grown fruit would not then be so frequently exhibited.

As to what a good Melon should be, I beg to submit—first, it should not be less in weight than 2 lbs. Second, it should be regular in shape, round or oval; if round, flattened at the stalk and opposite point like an Orange; if oval, the ends blunt or flattened, free from ribs or carbuncles or other irregularity of surface except netting, which should be even and extend over the whole surface; or if smooth it should be so throughout, or if only partly netted the netting should be confined to the stalk and point ends of the fruit. Third, colour regular throughout. Fourth, aroma not very powerful, the less the better, as it is given off in proportion to the softness or hardness of the rind—the harder it is the richer will be the fruit. Fifth, the heavier the fruit in proportion to its size the thicker it will be in flesh and higher in flavour. Those are the external characteristics of a good Melon. Such will have hard thin rinds, the flesh will extend to the centre of the fruit, and the seeds be embedded in the flesh without forming a hollow or seed cavity; the seeds will be comparatively few in number, there will be little or no watery juice in the centre as in those with a hollow or large seed cavity; the rind should not be less than an eighth of an inch in thickness nor exceed a quarter of an inch; the flesh tender, melting, and juicy quite down to the rind, with a rich sugary, musky, but agreeable, refreshing flavour.

It must be admitted that some ribbed Melons are thick in flesh and rich in flavour, but I find it very much more difficult to obtain by cross-breeding a Melon without ribs than with; and as ribs and pointed fruit with carbuncles only increase the quantity of the useless part—i.e., rind surface, it is only proper to reduce them to a minimum and seek to secure a maximum of usefulness, or secure flesh in place of useless exterior surface and hollow seed cavities. The vagaries of Melons obtained by cross-breeding are very remarkable. One instance will suffice. Beechwood \times Read's \times Victory of Bath has given a smooth, slightly ribbed, and netted scarlet flesh; a large, bluntly-oval, very closely netted green-flesh; and a large, round, ribbed, handsomely netted fruit, with thick green flesh, pronounced out of 150 fruit the best of the season; but the raiser thinks differently, rather regarding it as the worst out of over a dozen unnamed varieties. I mention this to show how cross-bred Melons run, also how tastes vary.

The varieties of Melons are so numerous and sport so much that it is not surprising to find so many of the prizes of the year being taken by seedlings, especially as there is no other test for the fruit but flavour. All the varieties named have won prizes, and many others named and unnamed—some positively ugly, more like Gourds, Marrows, and Pumpkins than fruit for dessert; yet it must be said some of the alleged new kinds are really beautiful in appearance and of unquestionable quality. One Melon we have omitted, but it ought not, being as it is one of the best—viz., Golden Perfection, it being a green-flesh of the highest excellence.

At the Crystal Palace Show in scarlet-flesh an unnamed seedling was first, Read's second, and Scarlet Gem third. In green-flesh an unnamed variety was first, Golden Perfection second, and Exquisite third.—A.

CAPE HEATHS.—No. 10.

OCTOBER.

ALTHOUGH these plants have been removed to their winter quarters long ago, yet the splendid open dry autumn we have experienced has not necessitated any protection whatever. Those in frames with us have had the lights all off, whilst in the case of larger specimens in the house every means of ventilation has been resorted to in order to admit the soft balmy air so beneficial to these plants during the present month. Mildew should almost be unknown, but still attention should be given that it does not creep in unawares and spoil the beauty and symmetry of the plants. Pay great attention to watering. Never give water when the plants are not dry, and when it is given let it be in sufficient quantity to wet the whole soil thoroughly.

Erica arbuscula.—A dense-growing beautiful little plant,

specially welcome at this season. Leaves short, spreading. Flowers terminal on the small branches, pitcher-shaped, red.

E. mammosa (fig. 50, page 310).—A most useful plant for decoration at this season. Free in growth, with linear subulate leaves arranged in fours, which are smooth, erect, and dark green. Flowers produced in long terminal whorls, wholly deep reddish purple.

E. princeps coccinea.—This variety usually blooms earlier in the season, but we have recently seen it in great beauty. Leaves linear, hirsute, fringed at the edges with ciliate hairs, deep green. Flowers long and tubular, produced in large terminal umbels, bright scarlet in colour.

E. casurgens coccinea.—Leaves arranged in fours, subulate, erect, and bright green. Flowers three times the length of the leaves, tubular, rich orange-scarlet in colour. The stamens are exserted and very conspicuous, adding much to the general effect.

E. cafra.—A neat compact-growing plant and an abundant bloomer. Leaves dense and bright green. Flowers small,



Fig. 52.—*Erica gracilis autumnalis*.

pure white, and very fragrant, which fully compensates for its want of size.

E. curviflora.—An elegant free-flowering species, which gives us a colour quite dissimilar to the majority of species at this season. Leaves linear, smooth, arranged in fours. Flowers curved, tubular, and clear yellow, terminal on the small branches, forming long racemes.

E. Bonviciana.—Leaves arranged in threes, glaucous, spreading, and distant. Flowers axillary, pendulous, white. The flowering shoots continue to lengthen for a long time, thus producing a succession of its charming blooms.

E. colorans (fig. 51, page 314).—A close-growing handsome species. Leaves arranged in sixes, hirsute, and deep green. Flowers terminal on the short laterals, forming long and dense racemes; colour white, changing with age to red.

E. grandinosa.—Leaves arranged in threes, linear, smooth, and bright green. Flowers also in threes, freely produced, ovate, pendulous, and pure white. This species usually blooms twice in the year—viz., spring and autumn.

E. versicolor longiflora.—A very handsome variety, differing from the species in the greater length of its flowers and in its season of blooming. Leaves in threes, linear, obtuse, smooth, and deep green. Flowers mostly in threes, terminal upon the small branches, tubular, with open mouth; colour orange and red.

E. gracilis autumnalis (fig. 52).—Leaves small, linear, smooth, and dark green. Flowers reddish purple, produced

in the greatest profusion on the ends of all the small branches, forming long dense spikes, which last a long time in beauty.

CLIMBING PLANTS.

OF the beauty and grace of climbing plants almost everybody has some degree of perception, for few can fail to find beauty where it is seen interwoven into forms so varied and colours embracing so wide a range, as is represented in plants of this nature. It must also be acknowledged that a thorough knowledge of the culture of such plants is by no means common. The sickly straggling growth that we so often meet with affords convincing proof that there are many to whom a few hints will prove useful as well as to "C. A. C.," who comes to us for help after "a three-years trial," ending in almost total failure, for he has only induced a Passion-Flower and a Virginian Creeper to grow freely, other plants, including such hardy vigorous climbers as Jasmines and Honeysuckles, either dying outright or making only weakly growth.

The query of our correspondent is a timely one, for the season of preparation for planting is fairly upon us, and by turning our attention to the matter at once we may reasonably hope for success. In planting climbers against the walls of a house we should remember that the work is not for a season—not even for a year, but rather for a generation or two. If the house be a new one children may be born, trained, and sent forth in the world bearing with them fond memories of home, among which the dear old Jasmine, Honeysuckle, or Rose will be cherished as things made sacred by many an incident when life was fresh and hope was bright. Let us therefore take especial care to lay well the foundation of our work by putting enough good soil alongside the house for the plants to root freely into for years to come, and also by making sure that the soil shall be well drained, of which there is considerable risk of its not being, unless special means are adopted to that end. Take, for example, a house with only a cellar or two behind under the offices. When trenches are excavated for the foundations they are generally cut down into a heavy mass of subsoil more or less retentive of water; the walls are built and soil thrown in to close the openings about the foundations, and if no outlet is made for drains through the subsoil down to the bottom of the foundations there is subsequently an accumulation of water from rainfall all along the bottom of the walls, not only making the house damp, but proving fatal to the roots of any climbing plants, no matter how hardy or tenacious of life they may be; or when a large bulk of soil excavated for cellars has been thrown out to form a terrace there is much risk of its eventually settling down into a compact mass and preventing the free escape of water after heavy rains. See, then, to the drains; open also a trench along the foot of the walls of the house, 4 or 5 feet wide and as much in depth, where climbers are to be planted; fill it with rich soil, precisely such as will yield good vegetables, with gritty matter or shattered stone or bricks to render it permanently porous, and you may plant your climbers without much fear of failure.

I have shown that imperfect drainage and poor soil are primary causes of failure. Another cause upon which I think undue stress is often placed is an elevated exposed situation. That this is a source of mischief it may be granted, but it ought not to lead to positive failure; on the contrary, by choosing varieties with stout foliage and of sturdy growth to mingle with and afford some shelter to more tender plants, there is no reason why a building should not be well clothed however prevalent high winds may be. The projecting angle of a lofty building fully exposed to south-western gales was so much wind-swept that the foliage of some Clematises and Roses was battered to pieces, and the plants consequently dwindled and presented an appearance the reverse of ornamental; a strong plant of *Cotoneaster microphylla* was therefore planted there, and it has thriven and made that part of the building quite as ornamental as the remainder. This plant may be named as quite the best for such a purpose. But there are others that bear exposure well and are very ornamental. Of such the best are *Escallonia macrantha*, with its stout handsome deep green glossy foliage and pretty spikes of deep pink flowers; *Escallonia pterocladon*, with smaller foliage and spikes of white flowers; *Ligustrum japonicum*, with bold handsome white flower spikes; *Cratægus Pyracantha*, with white flower clusters, followed by large berries of a deep orange colour; *Berberis Darwinii*, a general and well-known favourite, with stout glossy foliage and deep orange flower-clusters; *B. stenophylla* bearing a close resemblance to it, except in the colour of its flowers, which

are of a pale yellow; and in the south at any rate *Berberidopsis corallina* does not suffer from wind, and proves one of the very best of our evergreen climbers. It is not often to be met with in a flourishing condition, and yet once established in good soil it becomes positively rampant, throwing out dozens of stout shoots some 6 or 8 feet in length every season, forming a dense mass of stout foliage of a very deep green hue, and bearing charming pendant clusters of its deep crimson flowers throughout August, September, and part of the present month.

Climbing plants may usefully be divided into two sections—fast-growing sorts, which by careful training will soon climb to the top of the most lofty buildings; and slow-growing sorts, comparatively dwarf, and which are equally valuable in their way to mingle with the others, and to cover and make gay the lower parts of the building they so often leave bare. A select dozen species of the tall free growers may comprise *Ampelopsis Veitchii*, so beautiful now in the varied tints of its foliage, varying from a deep purple through crimson to brightest scarlet, and much more valuable than the old Virginian Creeper from its longer duration in full autumnal beauty and the admirable manner in which it spreads upwards and laterally with little if any assistance from the trainer; *Berberidopsis corallina*, *Jasminum officinale*, *Lonicera flexuosa*, *L. brachypoda*, *Wistaria sinensis*, *Escallonia macrantha*, *Aristolochia Siphon*, *Akebia quinata*, *Maréchal Niel* Rose, white and yellow *Banksian* Rose. Of the more dwarf or rather slower-growing kinds we may take the *Berberis*, the *Ligustrum*, the double-flowering and American *Blackberries*, a selection of the *Clematis*, *Cotoneaster microphylla*, *C. Simonsii*, *Fremontia californica* (worthy of a place in every selection), *Tea* Roses, and in the south *Ceanothus azureus*, *C. rigidus*, *C. divaricatus*, and *Desmodium pendulifolium*.—EDWARD LUCKHURST.

EXHIBITION ROSES.

MR. HINTON, in the interesting notes appended to the returning officer's declaration of the state of the poll, remarks, "I would like to start another subject in connection: What is the best time to cut Roses for exhibition? And again, At what stage should the Roses be cut from the plant?" On the former of these points something has been already written. I suppose the latter should be in such condition as that the judge might see it about two-thirds blown. But both questions contain interesting points for discussion, and both require a certain sifting, which if they could obtain it during the dull months in the Journal would supply matter that some of us, I suppose, always pounce on first, and also information which will be valuable to all next year exhibitors.

As respect the former question, I certainly prefer and always cut in the early morning. If I cut overnight and try the cellar they are sure to be discoloured. With the exception perhaps of two or three much-enduring Teas (Mr. R. G. Baker gave us not long ago a wonderful history of one such) I hardly know any Rose that would not be the worse for such a night's rest. I prefer cutting in the early morning with the dew on them, but I am by no means sure that these stand as well as those which open in the sunshine later. At a country show not long ago, where some exhibitors on the spot were bringing in fresh Roses and taking away weak blooms almost up to the very time of the judging, I noticed that these stood the hot tent certainly a vast deal better than others from a distance which had perforce all been cut early. We have also been told on high authority that Roses cut at 3 P.M. will travel through the night in better order than others cut in the evening. It is a matter of experience, and which I trust will draw opinion from some of our great exhibitors who have studied the subject on a large scale.

Perhaps the great question of all to be answered is, What Roses travel best? which requires careful observation as well as long experience. And this again may be put in another way, Which professedly exhibition Roses travel worst? I apprehend there are some highly placed in the twenty-four, or at any rate in the first forty-eight, to which some of us would be inclined to give rather a bad character. The time of cutting enters into the calculation, also the kind of day. I this year took a box of twelve to the Alexandra Palace, expecting to find two or three, as on former occasions, go off. It happened to be the beginning of a tropical week. After a couple of hours' railway journey seven out of the twelve, when the lid was taken off, appeared perfectly useless. They were fair average Roses, and such as would have stood under ordinary circumstances.

Looking at my notes I see that even Charles Lefebvre failed me on that occasion, also Victor Verdier, which perhaps is not much to be trusted, and Monsieur Boncenne, and also Comtesse d'Oxford. Star of Waltham, on the other hand, is the type of a class which is solid and enduring; also Baron Gonella, a Rose I have steadily and vainly voted for at elections. It is simply ignored by the exhibiting public. Annie Wood perhaps is not quite sure in the centre; but what a Rose this is! I marvel at her place now—so far below Marie Rady. At Marie Baumann's success I am not surprised. This was a Marie Baumann year. I saw some at Horsham of Mr. Sharp's, and Capt. Christy showed others at the Reigate Rose Show, almost, so to speak, as large as Paul Neyron, and yet losing nothing of the high tone or good breeding of which that robust individual is entirely innocent.—A. C.

HON. MARSHALL P. WILDER.

THE HON. MARSHALL P. WILDER is well known in every country of Europe as one of the most distinguished horticulturists of the United States of America, and more especially is he so as a pomologist. This excellent gentleman having attained the ripe age of eighty years, a banquet was given him on the 21st of September at the Parker's House, Boston, U.S.A. Pressure upon our columns prevented our noticing this interesting meeting until now.

EX-ALDERMAN BRECK presided, and spoke as follows: "We have assembled here to-day to honour one whom we all love and esteem, whom we all have known intimately for years, who is well known throughout the length and breadth of our country, and whose name in England, France, Belgium, and Holland is held in high esteem by the pomologists and horticulturists of those countries. We come here to-day to celebrate his eightieth birthday, and to wish him many years yet of health, strength, and vigour, and that his usefulness may be continued to his country for many years to come. I propose to you the health of our guest—Hon. Marshall P. Wilder."

COLONEL WILDER arose amid prolonged applause, and responded as follows:—Mr. President, I thank you for your kind expressions of respect, and you, my dear, dear, friends for the very cordial reception you have given me. Nothing could be more grateful to my feelings than these warm demonstrations of friendship and regard, coming as they do from those who have known me for many years and are conversant with my many frailties and faults. Yes, the wheels of time move on and tell the story of our bygone days; and if I live to see the opening of another sabbath morn I shall have passed the bounds of fourscore years. Most devoutly would I render thanks to the Giver of all good that he has prolonged my life, and that I am able to be here with you on this joyous occasion—here in the presence of my beloved pastor, who for thirty years has been my spiritual adviser—here with so many kind friends and co-labourers, with whom I have taken sweet counsel these many years—here to receive your friendly salutations, and, perhaps for the last time, to enjoy the sweet melody of your voices and breathe in the still sweeter consolation which arises like incense from off the altar of sympathising souls.

When we reflect upon our past labours our thoughts naturally revert to the Massachusetts Horticultural Society, whose fiftieth annual exhibition has just closed, and for which you, Mr. President, and your good father have done so much. Well do I remember its first exhibition in the old Exchange Coffee House in this city. Well do I remember the scene, with its two small side tables and one at the head of the hall. Well do I recollect the contribution of fruits when Robert Manning, the great pomologist of America, contributed only two baskets of fruit, and the subsequent growth of his enterprise when he donated many hundred varieties, and afterwards had in the Pomological Gardens at Salem two thousand varieties of fruit trees. Thank God, his son, bearing his own name, is with us to-day. Well do I remember the dinner, at which sixty gentlemen participated, and the speeches which succeeded it. The scene is before me now. There sat at the head of the table the eloquent Dearborn, there on his right and left sat His Honour Lieutenant-Governor Thomas L. Winthrop (father of our beloved Robert C. Winthrop), and His Honour the then Mayor of the city, Harrison Gray Otis, and the accomplished statesman and orator Daniel Webster of immortal fame [applause]. There, too, were Hon. John C. Gray, Vice-President; Dr. Jacob Bigelow, Corresponding Secretary of the Society, and John B. Russell, all of whom still survive; and here to-day, much to our joy, are the brothers Hovey, who were present on that occasion. Well do I remember the toast of General Dearborn—"Intelligence and industry, the only true promoters of the public good"—a sentiment which deserves to be written in letters of living gold. I thank you, Mr. President, for your kind allusion to me as one who has done something to promote the interests and welfare of my fellow men.

My friends, I have lived to see great progress and improvement

in the agriculture and horticulture of our country, much of which may be primarily traced to the enterprise and labours of Massachusetts men. Suffice it to say that from the day when Governor Endicott planted his Pear tree at Salem, which still lives; from the day that Peregrine White planted his Apple tree at Marshfield, Mass.; from the day when our Society was formed, it has stood prominently before the world as a leader and patron of agricultural and horticultural science. How marvellous the progress in our own day! How grand the march of horticulture since the establishment of our own Society! It is scarcely fifty years since the Massachusetts Horticultural Society was formed. Then there were only two horticultural and but few agricultural societies in our land, now they are counted by thousands, and are scattered over the continent, all working harmoniously for the promotion of these arts. Then there was scarcely a nursery of any note west, and only a few east of the Hudson River; now they are planted from one shore of our country to the other, and among them are many of the largest in the world. Then Mr. Hovey had not sown the seeds of his Strawberry and other fruits, which have since immortalised his name, or commenced laying out his extensive grounds and building his houses in Cambridge. Then I had not planted a seed of the Camellia, the Azalea, Pear, or Grape, or even attempted the hybridisation of a plant; now our American fruits and plants enrich the gardens and adorn the catalogues of foreign lands. Then we had no such splendid villas as those of Hunnewell, Payson, Gray, and others, with their broad lawns, extensive glass structures, and magnificent plants, which are such an honour to our land. Then we had many old and fine homes and gardens, such as Governor Gore's, Mr. Lyman's, Mr. Preble's, Mr. Cushing's, the Perkinses, and others; but very little in the way of landscape gardening, or in new or rare plants or fruits. Then our exhibitions were confined to a few days of the year, and were for many years held in small rooms; now many of our exhibitions are the best given in any State in the Union. Then we had no building of our own, now we possess the most costly and magnificent temple of horticulture that the world can boast. Then the American Pomological Society, whose President, by the mercy of God in his twenty-eighth year of service, now stands before you, had never been dreamed of—a society that emanated primarily from the influence of the Massachusetts Horticultural Society—a Society that embraces not only our national domain, but whose jurisdiction extends over our continent—whose catalogue prescribes the appropriate fruits for fifty States, territories, and districts, and at whose quarter centennial in this city the far-off state of Nebraska, with her Governor at her head, carried off triumphantly the Wilder medal for the best collection of fruits. Then there were few exports of fruits; now we send four hundred thousand barrels of Apples in good years to foreign lands. Then the Grape was scarcely cultivated; now, in addition to all that are used for the table, we make fifteen million gallons of wine, and wine, too, that took the first prize at the world's exhibition at Vienna in 1873. Then the statistics of our fruit crop were not thought worthy of record; now it amounts to \$140,000,000, or nearly the average annual value of our Wheat crop. But I must bring these remarks to a close. I thank you for the kind reference to me as a pioneer in rural affairs. You do me no more than justice, for I cannot, as I have told you before, remember the time when I was not fond of the cultivation of the soil. But, gentlemen, my labours are mostly over. Soon I shall be resting in the bosom of my mother earth; but if I can believe I have done anything to advance the great interests of our land, and which shall contribute to the happiness of my fellow men, I shall, so far as this world is concerned, die content, feeling that I have not lived in vain.

WORK FOR THE WEEK.

HARDY FRUIT GARDEN.

COMPLETE the gathering of Apples and Pears as soon as possible unless any of the latter do not part readily from the trees, when it is not desirable to gather them, as they will shrivel if gathered too soon. This more particularly applies to such late sorts as Bergamotte Espere, Fasse Crasanne, &c. Gathering Quinces, Medlars, Walnuts, and Filberts should be completed, keeping them in a moderately moist room, or they will become too much dried. Apples and Pears that have been stored some time should be occasionally examined, and all decayed fruit be removed at once. The room in which fruit is stored should be kept cool, but side ventilation should be employed as little as possible, as it dries the fruit in proximity too much without carrying off exhalations, which are best removed by top ventilation.

Wherever it is intended to form plantations of fruit trees the ground should now be prepared for their reception. Soils resting upon a heavy and retentive subsoil must be efficiently drained. Sandy soils often have water lodging in the subsoil; thorough drainage is then equally necessary as for heavy soil, but loams overlying gravel may not require drainage. If the ground be in grass it will only require trenching, and as the worst soil will be brought to the surface a good dressing of manure should be applied. Soils long in tillage will be improved by the addition

of fresh turfy loam, and if burnt clay can be had it will be a valuable addition. Sandy soils will be improved by a liberal dressing of fresh turfy loam, well pulverised clay or marl, and well decayed manure. Chalk is very desirable for soils deficient in calcareous matter, and old mortar rubbish is useful. The best time for planting is as soon as a majority of the leaves have fallen. The trees must be carefully lifted, their roots being kept moist, and be planted without any unnecessary delay. Where the soil is of a wet or heavy nature it is advisable to plant the trees upon hillocks elevated above the level of the surrounding ground. In planting any broken roots should be cut to sound parts and transversely, as slanting cuts retard the emission of fresh roots; the roots must be spread out carefully and the soil made moderately firm. We prefer to tread but lightly at planting, and to give in early planting a few cans of water to each tree, which tends to fill up any interstices, settling the soil among the roots and fibres. We leave a hollow, or basin, around each stem, which is filled in when the soil has become tolerably dry; it is then trodden down firmly, the trees being properly secured against winds, and a mulching of partially decayed manure is given around the stems outwards as far as the roots extend. This tends to check evaporation and to retain warmth. Any vacancies which may exist upon walls or espaliers should be filled up with healthy trees, but the old soil should for the most part be removed and replaced with fresh turfy loam. Where root-pruning is contemplated, it being necessary to check overluxuriance and to induce fruitfulness, it should be done as soon as the leaves commence falling, removing at the same time any useless or unnecessary shoots.

FRUIT HOUSES.

Vines.—Although this is not the time to plant Vines, yet the material for forming the border should be cut and laid up in ridges, and if sprinkled with soot and lime as it is being stacked wireworm and other insects likely to prove injurious will migrate. With so many good varieties of late Grapes the necessity for the forcing of Grapes to have them ripe very early is no longer desirable where the late kinds are largely grown. Lady Downe's Seedling is the most valuable of all, being a certain cropper and long keeper, keeping fresh and plump until May. Mrs. Pince is also a capital keeper, but requires to be ripened in heat like Lady Downe's to develop its Muscat flavour and to promote its good keeping properties. Alicante and West's St. Peter's are both excellent for keeping, and as a rule they finish off well without requiring so high a temperature as those with Muscat flavour. Gros Colman is simply magnificent in appearance, having splendid berries, and it has a fit companion in Gros Guillaume, both of which require a long time to colour and ripen thoroughly, but when that is done they are anything but coarse or inferior in flavour. They also require plenty of space and not too close pruning, and then they come out splendidly. Calabrian Raisin and Trebbiano are white Grapes with character not over-good as regards flavour; but when thoroughly ripened we consider the flavour is good, their appearance from the largeness of the bunch and berry fine, and they are capital keepers.

Where the above are not cultivated in quantity to keep up the supply to May preparation must be made for early forcing. The Vines having been pruned, the loose bark stripped off, the house thoroughly cleansed, the border top-dressed, and the Vines done over with a solution of soft soap, 1 lb to the gallon of water, brought to the consistency of cream with flowers of sulphur; adding, if there have been any scale, half a gill of spirits of turpentine, the composition being equally effective against mealy bug, killing all it touches. The whole being in readiness as advised in former calendars, cover the outside border with leaves and stable litter so as to warm the border, which should be done a fortnight before the house is closed and fire heat applied. If there be the convenience of making up a good bed inside the house of Oak or Beech leaves with about a third of stable litter it will greatly facilitate the Vines breaking, and be more beneficial to them than fire heat alone; therefore have these in readiness for placing in the house the early part of next month. Vines, however, to produce ripe fruit in late March or early April are best grown in pots as stated in a former calendar, selecting early sorts, as Buckland Sweetwater, Foster's Seedling, White Frontignan, and Golden Hamburg in white Grapes; and of black, Black Hamburg, Mill Hill Hamburg, and Royal Ascot. They should now be housed preparatory to starting them early in next month. Keep a sharp look-out for decayed berries amongst ripe fruit, as one decayed berry soon spoils a bunch. Ventilate freely by day in favourable weather, maintaining slight warmth in the pipes when the outside atmosphere is charged with moisture, and a chink of air will keep all right. Vines in pots not intended to be forced early, or for planting out, should be placed under cover without delay. An open shed with a north aspect, the pots being protected by straw or other dry material, is suitable, that aspect being most likely to retard growth.

Peaches and Nectarines.—The trees in the earliest forced house should be pruned, if not already done, and then dressed with some approved insecticide. The surface soil should be removed to the depth of 2 or 3 inches and replaced with fresh turfy loam, adding a

tenth of lime rubbish or chalk and a fifteenth part of each of half-inch bones and wood ashes, treading rather firmly, and giving the border a thorough watering. The outside border also should be top-dressed, and if in a thoroughly moist state protect with a covering of litter or bracken, as cold rains or snow reduce the temperature of the soil considerably; but if the border is not wet leave it exposed until it is thoroughly moistened by rains, which are much more beneficial than artificial waterings. The trees in the second early house will have the foliage ripened and falling off, which may be assisted with a light brush-over with a broom. We prefer to prune, dress the trees, and top-dress as soon as the leaves are fallen, as it makes an end of all insects before they have time to find secure winter quarters. In pruning forced trees it is not desirable to cut out much wood; any useless parts having escaped the knife at thinning after the fruit is gathered should be removed, and long shoots may be cut back to a triple bud, making sure that the centre is a wood bud, which is not always the case, and to leave a sufficiency of wood with fruit buds for the insuring of a crop. Shoots of from 8 to 12 inches in length should not be shortened, having usually a few wood buds at the base and one at the extremity, the rest being fruit buds. It is a great mistake, however, to retain much wood, which weakens the trees in flowering, and there is not space for training in the necessary growths for future bearing to secure their thorough exposure to light and air. Afford plenty of air at all times; houses with sliding lights should be closed in very rainy weather. Avoid, however, permitting the borders to become too dry, which is more pernicious than a wet soil at any time.

PLANT HOUSES.

Greenhouse.—Camellias often set many more flower buds than it is good for the plants to expand. Two to a shoot are ample, as more impoverishes the plants, and often when a number are left more buds drop when advanced for unfolding than can be spared. Any superfluous buds should be removed without delay. Plants that are wanted to bloom early and have the buds in a forward state will be assisted to expand in a temperature of 50° to 55°; but if the plants have not set their buds early and are in a forward state placing them in heat will only cause wood growth and the casting off the buds. Azaleas well advanced will soon expand the flowers in moderate heat as advised for Camellias. Cytisus racemosus or fragrans will also come in quickly in a like temperature, the growths being ripened early. Early-flowering Epacris and winter-flowering Heaths are coming in, and should have plenty of light with moderate ventilation; these, with Primulas, early Camellias, Epiphyllums, Heliotropes, Mignonette, and Chrysanthemums, will make a fine display during the dull months. Herbaceous Calceolarias now require to be potted off singly in 3-inch pots. Turfy loam with a fourth of leaf soil or well-decayed manure and a sprinkling of sand form a suitable compost. The plants should be kept near the glass, moist and cool but safe from frost. The earliest Cinerarias will be advanced for flowering. They should have plenty of light and air, with a temperature of about 50° by artificial means to insure their flowering satisfactorily. The second batch of Cinerarias should be moved into the flowering pots, and be kept near the glass, cool and moist but safe from frost.

Lily of the Valley.—Pot-up selected crowns for forcing. Some prefer imported crowns, but we prefer to lift those that have been two years planted in good rich soil in a sheltered situation—an east border. We take all those with plump rounded crowns, the flowering crowns; and those not of a flowering size are at once replanted, the soil being well enriched before doing so. The selected crowns are then potted: they are placed about an inch apart in 6 or 7-inch pots, or pans are sometimes used, and after potting are placed in cold frames and covered with cocoa refuse, the lights being used only to ward off heavy rains and snow. From this they are introduced in batches as required to the forcing house, plunging the pots or pans in a bottom heat of 90°, and covered 2 inches deep with cocoa refuse. This causes them to throw up the flower spikes along with leaves, and when they are a few inches high they may be gradually withdrawn from the bottom heat. Clumps force well later on, and are the best for starting without bottom heat; but up to January bottom heat is necessary, and with that crowns or clumps are alike eligible.

FLOWER GARDEN.

Calceolaria cuttings should be inserted in frames at the back of a low wall or fence with the lights facing north. From 4 to 6 inches of turfy loam with a third of leaf soil or well-decayed manure should be placed in the frames, with a surfacing of sand an inch thick. The cuttings should be taken from the base of the plants—growing points with two joints—cutting them transversely below the lowest joint, and removing the leaves from it, inserting them in rows 3 inches apart, and the same distance between the cuttings. They should be inserted quite up to the leaves and a good watering given. The lights need only be put on by day if the air be dry and the cuttings flag, removing them at night when the weather is mild. If Viola cuttings have not been put in they may be inserted in frames like Calceolarias. A frame will hold a great many, they not being so liable to be

lifted by frost or dragged out of the ground by worms as those in the open ground.

TRADE CATALOGUES RECEIVED.

William Paul & Son, Waltham Cross, Herts.—*Catalogue of Roses, Fruit, and Ornamental Trees.*

Osborn & Sons, Fulham.—*Catalogue of Fruit Trees and Grape Vines.*

Hooper & Co., Covent Garden.—*Catalogue of Bulbs.*

S. Dixon & Co., 34, Moorgate Street, London.—*Catalogue of Dutch Bulbs.*

George Templeton, Prestwick, Ayrshire.—*Descriptive Catalogue of Selected Roses.*

William Thomson & Co., 16, Giles Street, Edinburgh.—*Catalogue of Flower Roots.*

John Moore, Goodhope Nurseries, Warwick.—*Catalogue of Roses, Fruit Trees, Shrubs, and Spring Flowering Plants.*

Harrison & Sons, Leicester.—*Catalogue of Dutch and other Flowering Bulbs.*

William Potten, Sissinghurst, Staplehurst, Kent.—*Catalogue of Roses, Fruit Trees, Conifers, &c.*

James Dickson & Sons, Newton Nurseries, Chester.—*Catalogue of Select Roses.*

André Leroy, à Angers (Maine et Loire), France.—*Supplementary Catalogue of Trees and Plants.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense. Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

GERANIUMS (*J. E. Hall*).—We know of no volume that details who raised each variety or who first made it public.

FERNS (*H. R.*).—The fronds we have received are very handsome, being graceful in form with dark green pinnae crimped and serrated; they are remarkable also for their very fine sori, which give to the fronds a somewhat bold appearance. It appears to be a true cross between *Adiantum tenerum* and *A. concinnum*, and is highly worthy of preservation.

ESPALIER TREES (*H. E. Watts*).—Apples and Pears need not be kept separate on espaliers. There is no difference whatever in their cultivation and management, and if you wish to plant them alternately there is no reason why you should not do so.

FERNS DISEASED (*Ivanhoe*).—The stems of your Ferns are much infested with large brown scale. Wash them off with a sponge and soapy water. The pinnae are eaten by a snail, which may be found by searching at night by the aid of a candle.

HENBANE (*Elgie*).—Write to some of the seedsmen who advertise in our columns.

VARIOUS (*C. M. F.*).—The term "vegetables" in horticultural works usually is confined to kitchen garden produce. Melons and Tomatoes are fruits. Ash saplings may appear where Beech underwood has been cleared away, but certainly the saplings are not produced from the Beech. The culture of the Fig tree is stated in our "Garden Manual." The history of the tree is in Phillips's "Companion to the Orchard."

VIOLETS DISEASED (*G. F.*).—We cannot make out what is the matter with your Violets. We have shown the leaves to several gardeners and they have never seen such a thing before. Please to let us know what the effect of the disease (if it is one), and whether any injury arises from it.

FUCHSIA (*B. J.*).—We do not recognise the variety. Hooked sepals such as those you have sent are not usual.

TEBBS' UNIVERSAL STOVE (*H. B., and Others*).—You will find Mr. Tebb's address in our advertising columns. By applying to him you will obtain the information you require.

TULIP CULTURE (*N. C.*).—The bulbs may either be potted, placing three or four in a 5-inch pot, and burying the pots in ashes or cocoa-nut fibre until growth commences, then placing them in a light house or frame; or they may be planted in deep, well-pulverised soil in the open garden, embedding them in silver sand. We do not know the variety you name, but *Gloria Solis* is crimson and yellow, and has larger bulbs than those you describe.

ONIONS (*H. W., Camelford*).—The triple Onion sent appears to be the Welsh Onion, which is not suitable for producing a crop of bulbs. Obtain seed from a reliable source of such sorts as the White Spanish and James' Keeping, and with good cultivation you will have a supply of Onions over a lengthened period.

PRUNING CLIMBING ROSES (*John Wood*).—It is good practice to retain some young growth near the base of the trees, which is liable to become bare and unsightly. Old branches should be cut off when they exhibit a tendency to become barren, but not otherwise. Any wild or crowded growth may be pruned now or at any period of the year.

RAISING GRAPE VINES FROM EYES (*Journal Reader*).—We prefer a 4-inch pot filled with equal parts of broken turves and leaf soil for each eye to root in, taking care to bury it in a little silver sand an inch below the surface. Place the pots in a temperature of 50° the first week in January, raising to 55° in a fortnight, and at the end of the month plunge them in a hotbed with a bottom heat of 90°, and top heat of about 60°. When

the shoots are a few inches high and have four or five leaves lift the pots slightly, and when the shoots are pushing upwards freely and the roots reach the sides of the pots, shift into pots of about double the size and place them in a genial temperature. You may plant them in April or May.

TUBEROUS-ROOTED BEGONIAS (*M. D.*).—Let your seedlings remain undisturbed in the seed pans till March, keeping the soil somewhat dry but not dust-dry through the winter. In March shake them out of the soil and pot them singly in pots an inch or two more in diameter than the bulbs, in rich and very sandy soil, repotting as the plants make progress, which you may accelerate by keeping them in a lively temperature for a time, such as a vinery or stove affords. A high temperature is not, however, really necessary, and when established these answer perfectly well in a greenhouse.

HORSE CHESTNUTS.—"Lilian" asks who buys them.

GLOXINIAS (*Sandgate*).—Six good varieties are the following:—*Erect flowers*.—Candeur, pure white and rose; Skeltoni, crimson, primrose, and lilac; and Pegase, white and scarlet. *Drooping flowers*: Goethe, white and rosy vermillion; Rose d'Amour, white and crimson lake; and Crème et Violet, purple and violet. If you purchase the corns now you might lose some of them during the winter. A safer plan would be to obtain them when you have heat in which to start them into growth immediately on arrival in the spring, any time from February until April. We do not recommend dealers.

INSECT'S EGGS (*L. J. K.*).—The specimens sent are not eggs, but more or less matured individuals of one of the beetle mites, *Damaeus geniculatus* of modern authors. It may be dealt with successfully by several of the methods used for destroying insects under bark, but according to M. Boisduval they do little injury, but rather confer benefit by devouring eggs or young larvae of Acari and Thrips.

WHITE GRAPE SPOTTED (*Reader*).—The minute specks upon your white Grapes are by no means uncommon. We have seen the spot occur on Grapes in the hands of skilful and successful Grape-growers. No doubt the effect is attributable to atmospheric causes, just as the worst form of rust is clearly traceable to cold draughts playing upon the tender cuticle of the berry in the early stages of its growth.

ROSES WITH GREEN EYES (*Idem*).—Green-eyed flowers are the result of an ungenial season. Cold, cutting, north-east winds when the shoots are tender in spring cause green eyes to appear, and we have seen large plants trained to walls so badly affected as not to have one good flower out of some hundreds. During last spring a Marechal Niel afforded a curious illustration of this, all the flowers exposed to the east having green eyes, while those upon some branches trained along a south wall were quite free from this disfigurement.

THE CARDIFF CASTLE VINEYARD (*J. J.*).—The French Vines at Cardiff Castle are proving quite a success. The Vines have grown very freely in this and former years, and they are now thoroughly established. Their fruiting qualities are improving annually. This year the bunches are larger and more numerous than ever. The wine, too, which was made from the first crop is now, as it gains age, of very fair quality. Your Vines should bear a moderate crop in 1879. The varieties chiefly grown at Cardiff—Melier Blanc and Gromier Noir—are better for growing out of doors than any of our house Grapes. Royal Muscadine cannot be depended on to come to perfection every season even against a wall, and Black Hamburgh cannot be classed with outdoor Grapes.

FRUIT TREES FOR EAST ASPECT (*Idem*).—Victoria Plum, Marie Louise, and Soldat Laboureur Pear will succeed well in a partially shaded east aspect.

CUTTING ARBOR-VITES (*Idem*).—April would be a good time to cut your "hedge into shape," giving it a second trimming early in September.

FRUIT CULTURE IN A WINDY SITUATION (*Jas. Chapman*).—Espaliers are preferable to cordons from the greater quantity of fruit they produce, and the best position for the rows is from north to south, so as to ensure as complete an exposure of all the fruit to the sun as possible. The rows should be 6 feet apart, and the trees 20 feet apart in the rows, by which arrangement your plot of ground, 100 feet by 70, will contain thirty trees. Train them after the French style termed *Palmette verrier*, which consists of training each branch outwards and upwards, so that the ends are all on a common level, and equal distribution of vigour is secured. If you have sufficient space outside to plant a thick belt of forest trees for shelter by all means do so, as you will then be enabled to plant pyramids instead of espaliers, and thus obtain a much larger quantity of fruit. The trees should be 10 feet apart, which would give you exactly double the number of trees that you could grow as espaliers. You are right in calling Cox's Orange Pippin one of our best dessert Apples. It is a free bearer, and the tree forms both excellent espaliers and pyramids. Of other dessert kinds take Adams' Pearmain, which has had a heavy crop with us this year, Margil, Kerry Pippin, with Irish Peach for a very early sort, and Scarlet Nonpareil for a very late one. Of kitchen Apples Lord Suffield, Cellini, Keswick Codlin, Warner's King, Hanwell Souring, and the Gooseberry Apple are all good, and of which Keswick Codlin may be termed our best early sort, and Gooseberry our latest. Of Pears take Williams' Bon Chrétien, Fondante d'Automne, Doyenné du Comice, Winter Nelis, Jewess, and Beurré Rance. If you want Plums Early Rivers and Denyer's Victoria are two of the best for cooking, and Green and Purple Gage are an equally excellent pair for dessert.

FLOWERING STOVE PLANTS (*Respect Finem*).—*Poinsettia pulcherrima*, *Asphelandra Roezlii* aurantiaca, *Gesnera cinnabarina*, *refulgens*, and *exoniensis*, *Epiphyllum* in variety, *Eranthemum pulchellum*, and *Euphorbia jacinthiflora* are a few plants affording the colours you require. If you obtain *Lasiandra macrantha floribunda* you will find it flower freely in a small state. The plant you have is a shy bloomer, and the temperature of your house is also 10° too high for it. All the plants named can be grown and flowered in a dwarf state. *Aloe frutescens* flowers in a greenhouse after the plant has been well grown and afterwards kept dry at the roots for a month or two.

MANAGEMENT OF BULBS (*E. F.*).—If the soil is moist when the bulbs are potted, and the pots are covered at once 3 or 4 inches deep with moist ashes or cocoa-nut fibre, no water is necessary until the pots are removed; but if the soil is at all dry give one thorough watering so as to moisten every particle of it before burying the pots. The other plants you name are best wintered in a light cold frame, removing the lights during fine weather, and admitting air freely except during severe frost. The dark outhouse would ruin such plants, and they would not keep well in the conservatory.

CUCUMBERS UNDER GLASS (*W. H. G., Oldham*).—Our "Garden Manual" contains full directions, 1s. 9d. post free.

VINES IN GREENHOUSE (J. C. N.).—We think you may succeed in ripening Black Hamburgh Grapes in your greenhouse, but we doubt if you will succeed equally well with Peaches on the back wall. You might try, however, a tree of Royal George. A minimum temperature in winter of 35° to 40° will be ample for preserving Geraniums and similar plants, and more heat would be injurious to the Vines and Peach trees.

COARSE WEEDS (R. Wulhen).—You will have great difficulty in eradicating the weeds. The only remedies are draining the soil and cutting down the weeds as soon as they appear.

CHERRIES (Llanberis).—If you will inform us in what form you purpose growing the Cherry trees, and for what purpose the fruit is required, whether for dessert or kitchen use or both, we will endeavour to aid you. You ask for three of the best Morellos. There is only one Morello, or two if we include Belle Magnifique, which is also known as Morello de Charnex.

MOSS ON TOMBSTONES (J. S.).—Mr. West, Northlands, Salisbury, states that ammoniacal liquor or gas water will kill all moss or any vegetation on tombstones. The liquor is readily obtainable at gasworks at a trifling cost. After the ammonia has been applied, and the stone has become quite dry, scrub it with a rough broom to dislodge the moss. Mr. West also finds the gas water an excellent application for killing weeds and moss on gravel walks, and for imparting to the gravel a new and fresh appearance.

FORCING VINES IN POTS (L. E. G.).—Though the Black Muscat forces well, also Muscat of Alexandria, early in January is quite soon enough to commence forcing those kinds, as they do not set well in the dull winter months, nor ripen perfectly without considerable sun heat. Black Hamburgh and Muscat of Alexandria are the two best Grapes in existence, and succeed admirably in the same house, they forming a good succession. If you start forcing early in November we advise Black Hamburgh, Golden Hamburgh, Foster's Seedling, and White Frontignan; say twelve of the Black Hamburgh, two each of Golden Hamburgh and Foster's Seedling, and four of White Frontignan, which last is rich in Muscat flavour.

CONSERVATORY ARRANGEMENT (Mrs. Hirst).—The borders at the sides are much too narrow for the growth of plants, though they will answer very well for climbers, and you might have a shelf the width of the border all round the house except the doorway, which would be available for flowering plants in pots. The space at the ends of the centre bed with fountain in the centre may be planted with Camellias in a prepared border; but in so narrow a house we should not have any plants planted out except the climbers, but would have the flowering and other decorative plants in pots or tubs as may be required. In the case of borders for planting out, they require to be wide to accommodate such plants as Dracenas, Tree Ferns, &c., which have a considerable spread of head; therefore we should keep to the pot system, which will admit of your having greater variety and succession of flowering plants, some of the plants being grown in other structures and removed to the conservatory when in flower.

ERRATA.—Messrs. Veitch's new Cattleya described on page 294 as *Mastersoniana*, should have been "*Mastersoniana*," and the white *Anthurium* "*A. Scherzerianum album*."

NAMES OF FRUITS (Roseth).—Lewis's Incomparable. (*L. R. L.*).—1, Louise Bonne of Jersey; 2, Paradis d'Automne; 3, Baronne de Mello. (*A. Poirel*).—1, Hawthornden; 2, Nonesuch; 3, Cellini. (*B.*).—1, Golden Winter Pearmain; 2, not known; 3, Golden Reineette; 4, Winter Peach. (*E. H. A.*).—1, Doyenné Boussoch; 2, not known; 3, Reineette de Canada; 4, Tower of Glamis; 5, Nouveau Poiteau; 6, Beurre Diel. (*F. J.*).—1, Nelson Codlin; 2, Cellini; 3, Pott's Seedling; 4, Gloria Mundi. Pears.—1, Beurre Diel; 2, Louise Bonne of Jersey. (*James Wood*).—1, Blenheim Pippin; 2, London Pippin; 3, Pearson's Plate. There were no numbers on the others. The Peach is undoubtedly Salway. (*R. Troop*).—1, Marie Louise; 2, Louise Bonne of Jersey. (*J. Juggelen*).—1, Reineette de Canada; 2, Waltham Abbey Seedling; 3, Cox's Orange Pippin; 4, Hollandbury. The small Pear is Orange Tulipée. (*H. Gadd*).—1, Beauty of Kent; 2, Hall Door; 3, Tower of Glamis; 4, Formosa Pippin; 5, Alfriston; 6, Mère de Ménage. (*E. C.*).—The Pear may be Zephirin Grégoire, but the specimens are too imperfect for us to determine with certainty. (*C. J. N., Kilkoil*).—Beurre Capiaumont. It is not unusual for Pears to bloom and bear fruit a second time the same season. (*R. W.*).—1, Blenheim; 5, Golden Pippin; 7, London Pippin; 9, Royal Russet; 10, Hawthornden; 12, Sturmer Pippin.

NAMES OF PLANTS (T. O. G.).—We think it is *Santolina incana*, but the spray was crushed in transit. (*Amateur*).—*Colchicum autumnale* flore pleno. The Roses will stand in the winter in a cold frame. (*Kappa*).—*Tussilago japonica* fol. variegata. (*F. A. Fawkes*).—Caper Spurge (*Euphorbia Lathyris*). (*Young Gardner*).—1, Aster sp.; 2, *A. Tradescanti* (?); 3, *Sedum Sieboldii*. We do not name florists' flowers. (*Bathgatensta*).—You should send Ferns in fruit. 7 is *Cystopteris fragilis*. (*New Subscriber*).—1, *Limnantes Douglasii*; 2, *Aster Amellus*; 3 and 4, *A. Novae-angliae*; 5, *Coronilla Emerus*; 6, *Hypericum grandifolium*? (*Ramatho*).—Madder Fern is *Asplenium umbrosum*. The only general synopsis of Ferns is Hooker and Baker's, now in its second edition, published by Hardwicke. (*E. H.*).—2, *Pteris quadriaurita* var. *argyrea*; 3, *P. cretica albo-lineata*; 4, *Lomaria discolor*; 5, *Scopolopendrium vulgare*. (*M. J. Carpenter*).—*Pellaea rotundifolia*; *Aspidium (Cyrtomium) falcatum*. (*E. W.*).—The Fern is *Polypodium cambricum*; the Begonia, *Evasiana*. We cannot with certainty name the Fuchsia, there are so many so nearly alike. It resembles *Avalanche*. (*W. W.*).—*Pyrethrum uliginosum*. (*F. C.*).—*Cotoneaster microphylla*. Sow the berries in pans, or graft it on the White Thorn.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

HORNED EWES AND LAMBS.

(Continued from page 303.)

As we have before stated, there is less risk and loss at lambing time with this stock of either ewes or lambs in consequence of the lambs falling in October and November when the weather is comparatively mild. When lambing takes place in December and January it is necessary to resort to the lambing yard and

shed, whereas in the former case a fold at night upon some dry and sheltered pasture is all that is requisite. Without the home fold the shepherd would find it impossible to give that attention at night if the ewes were allowed to roam at large in the pastures, as we find that ewes when about to lamb usually draw away from the rest of the flock, and in case of a dark night the shepherd would find it difficult to attend them individually when allowed to lie over a whole field. In the fold the shepherd, even in the darkest night, when provided with a lantern will be able to notice those requiring his assistance, and the young lambs when they fall cannot stray away from the mother and be lost. Small pens with a little straw at bottom are made a hurdle square to place the ewes and their lambs in, and this is especially necessary with twins, and when perhaps ten or twenty ewes may lamb during one night. As fast as the lambs become strong enough the ram lambs should be castrated when they are about three weeks old, and twin or weakly lambs at about a month old.

When the lambs are old enough to commence feeding it is requisite, not only for their own sake but also for the advantage of the ewes, that their food should be of the best, so that the ewes should be relieved to some extent of the heavy call made upon them, and that they may begin to lay on flesh at the earliest period, with the view of their being made fit for the butcher at the time when the lambs go to market. In order to effect this desirable object the ewes must also be fed in the best possible manner; and when the change is to be made from pasture to root-feeding on the arable land it is best to have troughs in the pasture, so that the ewes may receive a small quantity of cut roots and such food as they will be required to eat when they go on the arable land. They will then become somewhat accustomed to root-feeding, otherwise the sudden change from grass to root-feeding interferes with the condition of the ewes, and often diminishes the milk, which checks the lambs. Before commencing root-feeding it is a good plan to have a portion of roots, whether of turnips, Swedes, or carrots, pulled and prepared for the cutter about a fortnight before they are required for use. In trough-feeding this will give time for the work of preparing to be kept well in advance of the sheep, because frost, wet weather, or snow often prevents the parties engaged in continuing the work, and thus stops the system of feeding, which when once began cannot be discontinued without serious loss to both ewes and lambs. We recommend that the lambs should receive cut roots as well as the ewes. It is, however, a practice with some farmers to allow the lambs to run over the turnip greens in advance of the ewes; but we object to this system, and prefer a fold in advance of the ewes. To feed them without anything but trough food the lambs will not only by this plan of feeding be more healthy and avoid the scour often produced by frosted turnip greens, but they will prove of better quality when fit for sale.

We do not propose here to describe the method of feeding the lambs, it having been fully explained in all its details in an article in this Journal upon the management of forward down lambs in vol. xxxiv., page 187. We prefer in the interest of the home farm to state our plan of holding over or the purchase of horned ewes in the spring of the year in preference to purchasing the ewes in lamb in the autumn, and carried out by us for a long series of years, which we can with confidence recommend, particularly where only a few ewes of this breed are kept as ornamental objects on the park and pasture lands. If we have a flock of considerable extent of ewes purchased in the autumn a portion of these will usually drop their lambs too late to feed the ewes fat whilst suckling their lambs. We therefore put all the ewes which lamb after the 20th of November upon moderate keep, say hay and roots without cake, but let the lambs run in advance and be fed in the best possible manner. These ewes in the spring will consequently be found in only good useful stock condition, and after their lambs are sold they are treated for the rest of the summer months as stock animals. If we require to

increase their numbers we purchase poor ewes and add to them generally at Guildford or Chertsey fairs in Surrey, and as a profitable farming matter it is found best to keep a stock flock in summer and a fatting flock in the winter. The plan we are describing is admirably adapted for this purpose, because the ewes only receive short keep, and are close folded at night, except in extremely hot weather, when they are folded at daytime from ten o'clock in the morning to four o'clock in the afternoon, otherwise the ewes to avoid the teasing of flies, from which the ewes suffer very much, will run into hedges and ditches during the heat of the day, and there leave their manure. It must be remembered that this stock will not fatten readily in the summer, but when they are kept in numbers on bare keep they increase in value as they approach the time of lambing, and if carefully managed are far more valuable than any which can be purchased at the autumn fairs. This is not only because they become acclimatised to the district in which they are summered, but because we have the opportunity of choosing the rams, upon which the value and quality of the lambs greatly depend; at the same time we can choose our own season at which the lambs shall fall, and put on to fattening food at once any ewes which do not prove in lamb after a certain date.

Our practice is to run the tup with the ewes the first week in May, one tup being sufficient for fifty ewes. Well-bred Hampshire downs with close short wool should be selected, in order that the lambs, more especially in the case of twins, which require to be longer kept, may wear a close firm coat. It is a generally accepted fact that loose hollow wool injures the sale of fat lambs in the live market. The lambs also begotten by a Hampshire Down ram possess a much larger proportion of lean meat, and will make greater weight at a given age than those reared from the Southdown cross. In proof of this we have frequently seen sucking lambs at Easter, being at that time about twenty-two or three weeks old, the twins weighing 20 lbs. per quarter, and the singles up to 23 lbs. per quarter, the ewes being at the same time sold to the butcher at heavy weights. The rams before being turned with the ewes should be shorn and kept in a dry open shed about a fortnight or three weeks beforehand. If placed with the ewes for service in their wool they are lazy and inactive. The plan of feeding the ewes must also be considered, for it is of consequence that their food at this particular juncture should be generous. We have found nothing better than a fold of trifolium cut up and put in racks, and also cut mangolds or Swedes in the troughs, with a run in a dry sheltered pasture for a few hours at daytime. If, however, circumstances should arise, such as cold wet weather, to delay the season of the ewes, they may be advanced by giving them half a pound of cracked beans each per day.

After the ewes are ascertained to be in lamb the rams should be removed, and from this time the ewes should be kept in store condition, receiving only bare keeping with a constant change, but especially should they lie upon the cultivated land at night time. They may then be pastured upon meadows at daytime, which otherwise may induce the rot—that is, the fluke worm in the liver. In some wet seasons the entozoa, or germ of the fluke found in the grass, may be taken into the system by the animals whilst grazing, and if they had no change of food and dry lying at night their livers would become diseased with fatal effects to the ewes. Our own experience proves this to us conclusively, for during more than twenty years of feeding unsafe meadow land we never had a case of rottenness. We can only attribute our success to the change of food and the night layer on the arable land with rock salt always at hand, this being the great antidote. Under these circumstances, although the entozoa may enter the system, yet it fails in producing the dreaded fluke in consequence of the quality and condition of the food, &c., not being congenial to the habits and requirements of this parasite.

WORK ON THE HOME FARM.

Horse Labour has now ceased connected with tillage work for all future crops, and will not be resumed until the fallow ploughing takes place, after the sowing of wheat is completed. The horses are, however, now fully engaged in drawing and laying out dung upon the clover leas, and also in ploughing and pressing for wheat. When there is much work in arrear, however, it may be advisable to hire the combined steam plough and presser. This turns and presses five furrows simultaneously, and soon alters the state of matters, and we have just seen this work going on with capital effect. There is work done in one day which would require eight horses, or ten horses, or more upon some soils. The advantage to be derived is not so much a question of cost as of the time saved and the forwarding of work previously in arrear.

Some horses will be engaged in lifting potatoes and preparing the land afterwards for either wheat or barley, for upon good loamy land wheat always succeeds well, and upon sandy or light soils barley does well. If the land is laid up for the winter after each of these corn crops the broad clover is more sure to take well, and better than after any other preparation. At the present time the odd horses will be engaged in carting the mangold crop to heap, and also carrots or Swedes as may be required. In con-

nection with this subject we have come across a memorandum wherein we find that in the year 1862 we were at this period pulling and clearing off a turnip crop from the potato land (before digging the potatoes), which was carted away and stacked in fields ready to be used for feeding ewes and lambs upon the wheat stubbles. The greens were used daily for cattle, and for several weeks proved very useful food for store cattle, pigs, &c. Our plan of storing the turnips is different from that of mangold, because we only place them between hurdles and thatch the top with straw to keep them dry; and as they are not required to be kept any great length of time they come out well for use, especially when the greens are not cut off too close to the bulbs.

Hand Labour will still be various, for if threshing of corn is going on this will employ some hands. Also spreading dung will be continued until finished. Hedge-trimming will have been finished; if not, it should be completed immediately. The cleaning-out of ditches and watercourses should be done before the heaviest rains set in, so that there may be no impediment should the rainfall approach to flooding. This will also be necessary upon the home farm where draining has been done, so as to give and keep a proper outfall to the water into the watercourses or brooks as the case may be. We have meadow lands which have been drained with outfalls into the brook, and we find that in peaty soils there are red ferruginous substances which are apt to accumulate in the drains, in which case we introduce a strong iron probe and swab for clearing away these obstructions, which if allowed to remain soon block the tiles, which must be taken up and replaced. We use the probe always in the autumn, and it is made of jointed stout iron rods, so that it may be increased to a great length if required. All cattle intended for the Christmas shambles ought now to be in the boxes or stalls, where they may be provided with the best of food. Grass is still good for dairy cows and store cattle but not for fatting bullocks. Shepherds will now be busy with not only the fatting sheep eating-off root crops, but also in attendance upon the breeding ewes of different sorts. The earliest lambing stock will now be dropping their lambs and must be attended to accordingly. The later lambing varieties of sheep will require a constant change of food, and if possible without root-feeding. Particular attention should be paid to ewes that are lambing, for when in high condition they are very likely to suffer from inflammation of the udder, in which case the old plan was to bleed from the udder vein, but we always bleed from the neck. We recollect an instance when we had a fresh shepherd upon one of our farms, that we had three ewes with seriously inflamed udders. Our new shepherd said they were sure to die, and that he had never seen such cases cured. We, however, to teach him his work, bled the ewes freely from the neck vein with a small lancet, which we always use for the purpose. They bled until they dropped down fainting. This, however, completely altered the deep red colour of the inflamed udders to the healthy colour. We then applied sugar-of-lead ointment, which answered the purpose on two of the udders; the third, however, was proceeding to mortification rapidly. We then applied the verdigris ointment, a sure remedy and preventive of mortification. All three of the ewes lived, and two regained their milk, but one lost the udder entirely.

THE CRYSTAL PALACE POULTRY SCHEDULE.

THIS important schedule, which has become quite the size of a pamphlet, demands special notice. The additions to it this year seem to be both large and important. In some cases particular breeds are somewhat over-favoured in the great subdivision of their classes; but this, we understand, is owing to the special private generosity of their admirers. If the fanciers of all breeds were equally liberal and enthusiastic equal justice might be meted out to all.

We will first look for any general novel features of the schedule, and then come to particular additions to it.

In rule 4 we see a concession to the demands of many exhibitors, made, we fancy, for the first time formally—viz., "Each entry for poultry must be packed in a separate hamper, except when two or more entries are made in the same class, when they may be sent in the same package, provided they are properly divided and separately labelled." This we know by experience is a great convenience as well as economical.

In rule 5 we learn that the old plan is reverted to of birds being delivered at the Palace on a Saturday—viz., November 9th. We much regret this. In much experience as exhibitors at the Crystal Palace we have suffered twice from any mistakes. These were both serious, and both occurred from Sunday or Monday penning of birds which had arrived on Saturday. We venture to impress upon those who superintend the penning that advantage should not be taken of the intervening Sunday to defer the work till the last moment.

Rule 6 is chiefly new and an admirable one, we will therefore give it *in extenso*:—"The Judges appointed to award the prizes will be instructed to disqualify and mark any pen which they may detect to have been tampered or improperly dealt with, and no appeal from their decision will be entertained upon any ground

whatever. Any exhibitor detected in fraudulent practices shall forfeit all or any prizes or cups that may have been awarded to him, and the entry fees in such cases will not be returned. The Judges will also be empowered to withhold a prize or prizes when, in their opinion, the specimens are not of sufficient merit. When a cup is awarded the money prize will be withheld, unless otherwise specified. All protests against awards must be lodged with the Secretary before 12 A.M. on the 12th of November, and must be accompanied by a deposit of £1 ls. Such protests will be submitted to the Judge or Judges for consideration, and they will be requested to state if they consider such protest is frivolous or made without due ground, in which case the deposit will be forfeited."

We are glad thus to see the wide and general influence which the honest efforts of the Poultry Club have had towards getting the rule adopted of all prizes being forfeited by any exhibitor detected in any dishonourable practice. The scandal cannot again occur of a person winning cups in several classes, and being disqualified for winning in another. We are sorry to learn that the authorities expect considerable diminution of their entries, especially in the Pigeon classes, in consequence of their praiseworthy boldness in adopting this rule. We can only say that their resolve, in spite of their fears, speaks better for them than for exhibitors. We mention the fact simply because we are sure that many fanciers will be glad (as we shall ourselves endeavour to do) to increase their entries, and with the object of preventing any loss from the discomfiture of the trimmers.

The classes for poultry have grown to the amazing number of 132, and those for Pigeons to 112. There are forty-three cups for poultry and forty for Pigeons. Dorkings have twelve classes as before. We fancy there is a printer's error, and that cup No. 4 should be for Silver-Grey Dorking cock or hen, not cock alone. Cochins have sixteen classes, Black cocks and hens being this year shown separately and not in pairs, and a class being added for pairs of Cuckoos. Brahmans twelve classes. A new class is added for pairs of hens or pullets, price not to exceed £5 5s. We consider this a good move, and should like to see it adopted for Dorkings as well. Spanish, Houdans, Crèves, and Hamburgs have the same classes as before. Five extra classes are allotted to Game; each of the four varieties now have their four classes, and there is a five-guinea Selling class for pairs of any variety. Sultans have a class for the first time at the Palace. Why Silkies are denied one we cannot understand. An extra Bantam Selling class is provided for pairs of hens, and a Selling class for Duck and drake not exceeding £3 in value.

In Pigeons Pouters still have ten classes; Carriers no less than seventeen! A champion class is new, and there are four classes for Blues—viz., adults and young birds of both sexes; Dragons twenty classes; Barbs six with three cups, two of them of five guineas each; Jacobins have six classes, Blacks being separated from Any other variety; Owls have an immense extension of classes—viz., eleven and four cups; Turbits have two classes for young birds in lieu of one, Blues and Silvers being very properly separated from Any other colour; Magpies have three classes; in Runts the sexes are divided; Flying Tumblers have two classes (one extra), Antwerps five (one extra), and cocks and hens are divided in the single bird Selling classes; this is a great improvement. We are not very partial to Selling classes, believing that they are often the media through which bad birds are palmed off on the ignorant and unwary. It is something, however, that exhibitors should be obliged to name the sex of their birds and be responsible for it.

The entries for this grand Show are stated to close on October 19th, but we hope that, as in former years, a week's law will be given for entering, considering the late date at which the schedules were issued.—C.

DIPTON POULTRY AND PIGEON SHOW.

THE third annual Exhibition was held on the 12th inst. in a large marquee. The district of this Show is in the centre of the North Durham coal field, and the Committee are for the most part miners. The marquee was placed in a field kindly granted for the occasion by the Treasurer, where a most extensive view of the vales of the Derwent (famous as running through the lands claimed as belonging to the Countess of Derwentwater), and prettier scenery is scarcely to be found in England. The following are the awards:—

POULTRY.—COCHINS.—1, G. Latimer. 2, W. D. Rowell. DORKINGS.—2, W. Watson. SPANISH.—1, J. Gales. *etc.* T. Gibson. BRAHMAS.—1, R. Lewins. 2, G. Proudlock. HAMBURGS.—Golden-spangled.—1, W. Bearpark. 2, P. Sharp. Golden-pencilled.—1, A. & J. Bell. 2, C. Close. Silver-spangled.—1 and *etc.* P. Sharp. 2, C. Close. Silver-pencilled.—1 and 2, G. Latimer. *etc.* J. W. Hodgson. ANY OTHER VARIETY.—1, R. Wallace. 2, G. Nicholl. *etc.* G. Eltringham. G. Nicholl. SELLING CLASS.—1, A. & J. Bell. 2, J. Burnip. *etc.* G. Dyson. GAME.—Black-breasted and other Reds.—1, P. Sharp. 2, R. Miller. *etc.* J. Condon. G. Walton. Any other colour.—1 and 2, Ridley & Waggett. *etc.* G. Walton. Any variety.—Cock.—1, Ridley & Waggett. 2, A. & J. Bell. ORIGINAL GAME COCK.—1, J. Brown. 2, G. S. Nellist. BANTAMS.—Black-breasted and other Reds.—1, J. Jones. 2, Ridley & Waggett. *etc.* R. Miller. Any other colour.—1, Ridley & Waggett. 2, Miss C. Charlton. 3, H. W. & H. King. *etc.* R. Wallace. Miss C. Charlton. BANTAM.—Cocks.—1, Ridley & Waggett. Ducks.—1, R. Usher. 2, W. Bearpark. PIGEONS.—DRAGONS.—1, R. Armstrong. 2, W. C. Moody. POUTERS.—1

and 2, J. Dye. TUMBLERS.—1, E. Bland. 2 and *etc.* R. & J. Anderson. TUMBLERS.—1, Brown & Hastie. 2, F. Wilson. TUMBLERS.—1, R. & J. Anderson. 2 and *etc.* E. Bland. TUMBLERS.—1, J. Dye. 2, G. Carr. *etc.* Brown & Hastie. BARBS.—1, T. Handy. 2, P. Wilson. *etc.* G. S. Nellist. TURBITS.—1 and 2, J. Dye. *etc.* W. F. Clark. OWLS.—English.—1, J. Young. *etc.* G. Heppell. P. Wilson. R. & J. Anderson. MAGPIES OR NUNS.—1, W. Allison. 2, S. & J. Linsley. *etc.* E. Barker. P. Wilson. JACOBINS.—1, G. Henderson. 2, S. & J. Linsley. *etc.* P. Wilson. CARRIERS.—1 and 2, J. Dye. ANTWERPS.—1, R. Armstrong. 2, R. Walker. ANY OTHER VARIETY.—1, S. & J. Linsley. 2, G. S. Nellist.

JUDGES.—Poultry: Mr. Robert Shield. Pigeons: Mr. W. B. Van Haansbergen, Woodlands Hall.

PIGEONS AT THE AGRICULTURAL HALL.

THIS was the first year that Pigeons were included in the schedule, and the classification was not very extended, notwithstanding eight hundred birds were shown.

Pouters had four classes. The cup went to a very fine Blue cock first in his class. An immense Black cock was second, still in the moult. In young cocks another very good Blue came in first. In adult hens a most beautiful White was first. In young hens first was a pretty Blue, second a very nice Yellow. Carriers had a champion class with only two entries. Mr. Baker's famous Black cock won. The other entry—a good hen—was quite out of condition. In the general class for cocks Mr. Hedley was first with a splendid Black; second and third were also Blacks. Hens.—First a Dun, very fine in head properties; second, another Dun in many points quite equal to first; third a Black out of condition. Cocks any other colour.—First and third Blue; second a White. Hens any other colour.—First, a well-shaped Blue; second a Silver. There were three classes for birds bred in 1878. We saw many most promising among them. The Black cup cock deservedly had his place. Dragons had thirteen classes. First came a champion class with five entries. One of the best Blues known won here. We could not do more than note what appeared to us the very best birds in the whole collection. They were the first Silver cock, a wonderful bird; the first Grizzle cock; and the second young Blue cock. Tumblers had six classes. The first Almond cock was very pretty in carriage; the first hen beautifully spangled. In Any other variety Shortfaced a perfect little Agate won. Second was a good Red Mottle. Longfaced Tumblers had two classes. A Blue Beard and a Black Mottle were respectively first. Barbs had but one class, and consequently few entries, though good. First a fine Black, and second a grand Red. Jacobins were throughout very good. In Red or Yellow cocks the first Yellow was splendid, and the second Red very good. We much admired, too, the first Red hen. Any other colour.—First a Black, with hood not close enough to please us. Fantails.—White. All the three winners were of the same type—largeish birds with fine flat tails. Among the unnoticed was the little cup hen at both Palaces last year (No. 1467, Cresswell), showing more motion and carriage to our fancy than any bird in the class. Any other colour.—The winners, all Blues, were but middling. When Blues have fair tails they seem generally to carry them horizontally over their heads. Nuns were apparently good, first and second being Blacks, third a Red. Trumpeters.—First a fine Mottle, and second a good Black. Owls.—The champion class came first with three entries. A White African won the first honour, and another bird of the same variety was second to it. The first Silver cock and the first White African were both of their kinds admirable specimens. Turbits.—Blue or Silver. First a good Blue cock which we have often seen before. Second a Blue Shell very foul in flights, and with shell irregular from the moult, but capital in breadth of skull and thickness of beak. Third, a down-faced little Blue hen. Any other variety.—First, Mr. Burnell's ubiquitous little Yellow. Second a Yellow, better in colour but very inferior in head. Third a good Red. Birds bred in 1878 were a wonderful class of twenty-three. Many deserved notice which, beyond the prize cards, they did not get while we were at the Show, though by the prize list they seem to have been awarded to them. First was a Blue good all round, second a Black good in colour and clean in thigh—great merits; still we should hesitate in a good class to give a prize to such a mousy-faced Turbit. Third another Blue, which we thought might well have succumbed to a Silver (Burnell) or a Black (Cresswell). Magpies.—First and third beautiful Blacks. Second Red. Runts.—First a gigantic Silver far ahead of the rest, second a Blue, and third a Silver. Antwerps.—Shortfaced had but one class, and that a poor one. The first a Red Chequer seemed to us the only first-rate bird in the class. Homers were numerous, as they are everywhere now. The wonderful performer which flew from Rome to Brussels was exhibited (not for competition) by Mr. Tegetmeier. Any other variety was not a large class. The birds were shown in pairs. We admired the second Blue Priests very much.

BIRMINGHAM CATTLE AND POULTRY SHOW.—The thirtieth annual prize list as revised by the Council is stated to be the most liberal in the amount of premiums offered that has yet been issued, and in the cattle section it is open to an exhibitor who is also the breeder of the best animal to win a larger amount in cash and plate

than ever was offered at the shows of this or any other society—viz., the best of the breed, £100; the Gibbs prize, £105; the Elkington prize, £105; the President's prize, £25. The Elkington trophy is a handsome cup, which has to be won twice successively or any three years by the same exhibitor; but all the other prizes are given outright. The different breeds do not, as is the case at many other shows, compete against each other except for the special prizes, and this is an arrangement of which exhibitors approve. Exhibitors, moreover, are not required to become members of the Society in order to compete, but are only charged a moderate entrance fee on each entry. In regard to sheep, it is possible for the best pen to win as much as £75, and here also in competition the various breeds are kept distinct. Bingley Hall Christmas Exhibition has now become the recognised mart with breeders for young store pigs of all breeds, as the exhibits of the several owners in the classes for fat pigs show what the sort can do, and we are informed that from two to three hundred breeding pigs from three to six months old regularly change hands on these occasions. The poultry schedule is on the same liberal scale which has characterised it for thirty years. As fast as new breeds come up and prove by their merit or numbers that they are worthy of recognition, new classes are added, but rarely are any struck out. It is found that from 2000 to 2500 pens are as many as can fairly be accommodated, and the entrance fee has, in consequence, been raised from time to time to keep the department within reasonable bounds. Mr. John B. Lythall is still the Secretary, from whom every information may be obtained.

VARIETIES.

We are frequently being asked questions about Pekin or Cochinchina Bantams, &c., where to procure them. Our general answer is that they are hardly procurable for money, unless the purchaser is prepared to claim the one or two pairs occasionally shown at their catalogue price of £100 or more. About two years ago we heard from an enthusiastic fancier that he had an agent with exceptional opportunities and great knowledge of China scouring the country for them. We have lately heard that he has entirely failed to procure any, and believe them no longer to exist in the country. Our advice, in consequence, to the one or two fortunate possessors of them, is to cross them with Nankins and back again with the original stock before the race in this country dies out entirely.

— MESSRS. SUTTONS' Royal Berkshire Root Show will take place in the new range of warehouses at Reading on the 23rd prox. Special prizes are offered for sewage-grown roots, which will make the other classes more open. The new feature of the Show is the grand prize, a gold cup value £20, for the best three dozen roots of Suttons' improved varieties of mangold, which it is expected will bring together such a collection of roots the like of which has never been seen.

— AN Edinburgh correspondent informs us that the long term of dry mild weather is proving valuable for lifting the Potato crop. The farmers are very busy among them, and a few days more will make all safe. The crop is a very fine one both in quantity and quality, with less disease than has been seen for many years, consequently prices are very moderate.

THE STEWARTON VERSUS THE LARGE SKEP SYSTEM.

"STRONG men, strong horses, and strong stocks of bees recommend themselves," writes Mr. Pettigrew, and we add, in exact proportion as their respective strength is wisely applied.

The Stewarton colony is peopled with two prime swarms, the big straw skep with one, consequently the former has double the strength at the start to recommend it; but what about the application?

Mr. Pettigrew teaches as his system the avoidance of all hives of wood, particularly bar-framers, supers, and super honey, Italian bees, artificial comb foundation, the extractor—in short, everything that savours of improvement by such appliances, and generally to revert back to the crudest of all systems—the straw skep one, and emphasises his partiality therefor by insisting on an enlarged edition being adopted everywhere, peopled with the old black bees "bred in-and-in for ages!"

The big skep, 18 or 20 inches by 12, is to be peopled as I have said with a single prime swarm, the combs of which are to be rendered fixtures by five or six cross sticks having previously been run through it. Towards the end of the season the bees are to be expelled by driving, the hive's contents converted into run honey, two or three lots of such driven bees to be united in an empty hive and fed on sugar syrup as a stock for the ensuing season. Such is your correspondent's system, and as he has promised to point out the "faulty features" of the Stewarton prior to having mastered its first principles, I may be excused describing for the benefit of the general reader a few of the faulty features of the big skep as compared with the working of the Stewarton system.

First as to size. In vast heath districts and favourable seasons the size of the common skep might be beneficially increased; but, unfortunately, all districts are not alike nor seasons good, hence a fixed huge size for all is a mistake. In poor districts, or in the cold early spring months when the population is reduced to the minimum, they cut as awkward a figure as does the little Pat in his father's breeches, although we cannot withhold wishing good luck to both to grow to fill them. The Stewarton, on the other hand, is built in sections, is a small hive in spring; the precious heat is much more economically raised and better concentrated, and breeding in consequence goes on more rapidly, space being afforded proportionately to the season, district, or wants of each particular colony for either breeding or storing, and from every comb being moveable stocks can readily be strengthened by interchange of brood or store, and the expense of autumnal feeding is in a great measure saved.

The second faulty feature of the straw skep system we will look at is the mixed and impure nature of its pressed or run contents. Such honey is composed of a mixture of, among others, first the surplus sugar syrup of the previous spring and autumn feeding, the gleanings of the fruit blossoms, the sycamore tree, the bean field, the pure nectar of the white clover, the greenish-tinted lime, the yellow bindweed, and the dark exudation of the purple heather, all crushed up together into one grand blend, piquantly flavoured with the varied and acrid pollens of many a flower and plant; bad enough the idea, even though we exempt the white grubs of the brood cells so frequently seen floating in the precious mess. What would be thought of the gardener who would send the best fruits of the season served up on his master's table crushed in this hotch-potch style, or the sugar refiner who would send to market his "low yellows" and purest "crystals" jumbled together? The skepist does it. On the other hand the shallow supers of the Stewarton hive afford facilities for the combined large body of bees to store rapidly and distinct the various honeys, at the same time ensuring a pure sample and fine finish. In our district, for instance, in keeping with the favourable weather, while the staples are in bloom the first or lowest super has generally a greyish tint from the bean, then follow two or three finest pure white clover, our main staple, with one or two from the limes to succeed, the uncompleted usually being part bindweed and heather honey, the last only available after a long flight in fine settled weather, all without a speck of pollen, the collectors of which (the queen and nurses) are kept shut within the breeding department by the central slides of the upper breeding box being securely closed, the honey-gatherers congregating on the end honeycombs, only admitted to the supers through these outer slides overhead being alone drawn. While disparaging super comb Mr. Pettigrew overlooks the fact that in so doing he depreciates the source from whence the purest and finest run honey can be drawn. The magnificent samples exhibited at the Caledonian Apian and Entomological Society's shows at Dumfries and Glasgow this last season were so close that a very few motes in a highly flavoured glass were sufficient to cast it, the Judges thereby teaching a useful lesson to the cottager of scrupulous cleanliness for the time to come, and on inquiring of the successful competitors from whence they drew their supply was answered "Super, of course."

The third and last faulty feature of the skep system to which for the present I shall allude is the destruction of the maturing autumnal brood, the very life blood of the stock, which is unavoidable where bees are driven from fixed combs sufficiently early in autumn to admit of their fabricating others in an empty skep before severe weather sets in, except they be placed in frames so that they can be kept constantly covered by the workers till hatched. Mr. Pettigrew does not advocate the brimstone pit, but teaches in his book how bees can be so destroyed, terms those who save and think it inhuman to destroy our little favourites "sentimentalists," and adds, page 178, "There is nothing in the destruction of the lives of bees more cruel or inhuman than there is in the destruction of the lives of cattle, sheep, or fowls." Is this sound reasoning? Are the cases at all analogous? We cannot consume the flesh of any of these creatures without first depriving them of life. It is not so with the bee. We framists can cut to the last cell, or better still, with the extractor drain to the last drop of honey it contains, without breaking an egg, hurting the weakest larvæ, or even damaging a cell wall. To take the useful lives of even the tiniest creatures unnecessarily we hold to be nothing less than wanton cruelty.

I have had already occasion to advert to the manifest unfairness on the part of Mr. Pettigrew drawing comparisons of harvest results between different districts, and of pitting against net weight pure super honey and gross weight of big straw breeding skeps, and now regret to find statements still more reprehensible. At page 216 of this Journal he says: "In 1868 our Renfrewshire friend had glorious results in supers from a Stewarton hive. The results the same year from a straw hive in an adjoining county (Lanark) were equally good—viz., 328 lbs. gross." On referring to page 78 of Mr. Pettigrew's "Handy Book" I find the harvest alluded to was there represented as reaped in 1864, or four years previously to mine, and the gross weight of 328 lbs. as not of

one but three separate straw hives—an old stock 92 lbs., its first swarm 160 lbs., and second swarm 76 lbs. Which version of this story are we to credit?—A RENFREWSHIRE BEE-KEEPER.

MANAGEMENT OF STEWARTON HIVES.

MR. PETTIGREW has completely misunderstood my notes which appeared in your Journal of the 3rd inst. In reply to "ZENO" he affirms that I recommend a mode of procedure which I most strongly condemned. I state that "All the slides are withdrawn between the stock boxes, so that the three form one hive with free communication between all the combs. As a rule only the outer slide on either side is withdrawn between the stock and the first super [Sometimes when honey is very abundant a second slide is either entirely or partially withdrawn], and this is a most essential point in the management, &c." Again, "You have thus a hive in two compartments, three stock boxes with free communication, &c., and three, four, or more supers, with equally free intercommunication, but cut off from the stock everywhere, except where the withdrawal of the outer slides has opened a communication."

Mr. Pettigrew is well versed in the management of bees in straw skeps, but appears to have had no experience in the management of Stewarton boxes, with the theory and practice of which he is manifestly altogether unacquainted.—J. E. BRISCOE, *Albrighton, Wolverhampton.*

BEE-KEEPING IN THE NORTH OF SCOTLAND.

SINCE the publication of Mr. Pettigrew's "Handy Book of Bees" great improvements have been made in the north of Scotland. Previous to its publication bees were greatly neglected and mismanaged. As soon as I read the work I put its lessons into practice, and shortly afterwards I gave my experience in two of our northern newspapers. In 1875 I wrote a small work entitled "The Scotch Bee-keeper," and, as might be expected, my teaching was almost the same as Mr. Pettigrew's. A few weeks after its publication I received many letters asking information regarding Mr. Pettigrew's book, which I at once furnished; this, of course, assisted the sale of the "Handy Book," and spread a knowledge of bee culture far and near.

Every week I receive letters from interested bee-keepers either asking questions or intimating their success. To-day (Oct. 12th) one has come to hand which I consider very worthy of publication. It is from Mr. Trorp of Birchwood Cottage, Corgarff, Strathdon, and is as follows—viz., "I have long intended writing you a few lines about my bees. I noticed with pleasure your communications in the *Banffshire Journal* many years ago, and I commenced bee-keeping about three years before you published the "Scotch Bee-keeper," of which I obtained a copy; and since that time I have united my bees at the end of the season instead of burning them in the brimstone pit. I have adopted your instructions regarding big hives. I have not any larger than 17 and 18 inches inside measure. I find that swarms from hives of the above size are about twice as large as the swarms I used to have from small hives. The season of 1877 was a trying one for bee-keepers. I had no swarms, but I lost none of my stocks. I had three stocks at the commencement of the season. I took my first swarm on the 8th of July, and by the 20th the same hive had given three swarms. My other two stocks both swarmed on the 17th July, and by the end of the month they had each swarmed three times. One of the top swarms weighed 5½ lbs., another 5 lbs. of bees. At the end of the season both of them weighed 82 lbs. gross. My other top swarm weighed 74 lbs. The parent of this top weighed 68 lbs. The other two swarms were 53 and 44 lbs. respectively, which is not bad for this late locality." The above results from such a late district as Corgarff are very satisfactory.

Before I conclude I may state that bees have done well this year over the whole of the north of Scotland. Several swarms have reached the weight of 130 lbs. My best top swarm built 13 square feet of comb and stored 80 lbs. of honey. A swarm of June 26th filled its hive and gave a super of 37½ lbs. of very fine honey. I may also state that my frame hives measure 18 inches from back to front and contain from ten to twelve frames. My straw hives measure 16 inches and 20 inches, and are about 12 inches deep. When working supers on the Stewarton system I place the empty one below the full one, and I have no difficulty in preventing brood in the supers. I cause the bees to build thick combs, hence they are all but useless for breeding purposes.—A. COCKBURN, *Aberdeenshire, N.B.*

OUR LETTER BOX.

TURKEYS' HEADS SWOLLEN (J. W. G.).—Your Turkeys are either suffering from the change of the weather, or if they are still with the hen she is allowed to drag them about in the morning while the grass is wet and damp. They are very susceptible to injury by cold. If they are with the hen keep her under her rip till the sun is up and the grass is dry. If they have left her shut them up till the chill of night, the white frost, and the icy dew are gone off, then let them out. From your description they are far gone in disease. Wash the heads of those affected with vinegar and cold water

mixed in equal parts. Feed them on ground oats, to which add a small quantity of bean or pea meal. Slake the whole with milk, and mix with it chopped onion greens. Give morning and evening a good feed of stale bread soaked in strong beer. Give every evening two pills of camphor, each the size of a large garden pea for adults, smaller for poults. If they do not improve give one pill in the morning. This treatment should cure them.

CAYENNE FOR CANARIES (W. M. G.).—Begin with a small quantity, and increase until a small teaspoonful is mixed with each egg. Use both white and yolk. It is effective with any variety of the Canary.

CORN COCKLE (F. G. H.).—We do not think the seeds are poisonous, but such inferior corn as you have sent us is bad poultry food.

BEES (R. Filmer).—"Bee-keeping for the Many," post free for five penny postage stamps from this office, will afford you useful information.

POTATOES AFTER LUCERNE (G. R. P.).—The best sorts of early potatoes are the Early Rose and Myatt's Prolific. These may be planted in February, and will be fit to dig up the first or second week in June, quite in time for drilling lucerne. In planting early potatoes, instead of putting dung in with the sets it is a good plan, especially if the horse or pig dung is composed of long fresh straw, to place it on the top directly over the sets. This preserves them against the night frosts, and in the act of hilling-up the dung is buried. If the land is out of chalk lime may be dug into the land, but not chalk with the potatoes, for it makes the tubers spotted and spoils their appearance for sale.

ABBOTT'S COMBINATION HIVES (F. J.).—"B. & W." has no personal acquaintance with Mr. Abbott's combination hive. He believes that most commonly bees build their combs from front to back, but it is by no means universal. For many years "B. & W." worked hives with bars across his hives; but now that he has adopted bar-and-frame hives *à la* Woodbury, his bar-frames all run from front to back.

PRICKLY COMFREY (T. James).—We can only suggest that you give frequent and liberal dressings of freshly-slaked lime and soot, so as to prevent your plants being devoured by slugs. The soot would further enrich the ground and increase the produce of plants. The lime is best applied at night when the slugs are active.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.						Rain.
1878.	Oct.	Barom- eter at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
			Dry.	Wet.			Max.	Min.	In sun.	On grass		
We. 16	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.		
Th. 17	30.005	53.4	53.0	N.E.	52.0	56.2	51.4	59.1	50.1	—		
Fri. 18	30.012	50.9	50.9	N.E.	52.2	55.4	50.3	65.5	47.0	—		
Sat. 19	29.880	53.0	49.7	N.	52.2	56.3	46.8	69.6	39.5	—		
Sun. 20	29.761	54.7	51.3	S.E.	52.1	58.7	50.0	78.9	44.2	—		
Mo. 21	29.821	53.0	52.3	W.	52.5	59.6	50.2	65.1	48.3	0.010		
Tu. 22	29.513	57.7	56.1	S.	52.9	65.0	50.3	91.0	44.6	0.220		
Means	29.758	52.9	51.5	S.W.	53.4	59.3	45.9	100.0	47.3	—		
Means	29.758	52.9	51.5		52.5	58.6	49.3	75.9	45.9	0.230		

REMARKS.

- 16th.—Foggy, dark, dull day.
17th.—Very foggy morning, cleared a little at noon, sunshine for a short time, but fog continued all day and evening. [calm starlight night.]
18th.—Rather dull but clear day; high wind, little sunshine in afternoon;
19th.—Fair day throughout, but dull; very little sunshine.
20th.—Fair in early morning, thick and dark from 9.30 A.M. until 2 P.M., especially dark at noon; dull evening.
21st.—Misty early part of morning, fine and bright after 10 A.M., very cloudy and dark from 2.20 till 3.15, fair but dull rest of the day; high wind from S.P.M.
22nd.—Low barometer in early morning, strong wind, heavy rain at 3.50 A.M.; clear sky and bright with sunshine after 10.30 A.M.
Dull and gloomy, temperature much the same as the previous week.—G. J. SYMONS.

COVENT GARDEN MARKET.—OCTOBER 23.

OUR market is badly supplied with Pears, importations from the Continent being short and prices high. Large quantities of Apples are again arriving from America, and meet with ready sale, but at unremunerative rates. Kent Cobs have sold freely.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	3	sieve	2	0 to 4	Melons.....	each	1	0 to 4	0
Apricots.....	dozen	0	0	0	Nectarines.....	dozen	0	0	0
Chestnuts.....	bushel	0	0	0	Oranges.....	per 100	8	0	16
Figs.....	dozen	0	0	0	Peaches.....	dozen	8	0	12
Filberts.....	per lb.	0	8	1	Pears, kitchen.....	dozen	0	0	0
Cobs.....	per lb.	0	8	1	dessert.....	dozen	2	0	6
Grapes, hothouse	per lb.	0	9	6	Pine Apples.....	per lb.	3	0	6
Lemons.....	per 100	6	0	18	Walnuts.....	bushel	5	0	8

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	dozen	2	0 to 4	0	Mushrooms....	pottle	1	6 to 2	0
Asparagus.....	bundle	0	0	0	Mustard & Cress	punnet	0	2	0
Beans, Kidney..	per lb.	0	3	0	Onions.....	bushel	2	6	3
Beet, Red.....	dozen	1	6	3	pickling.....	quart	0	4	0
Broccoli.....	bundle	0	9	1	Parsley.... doz.	bunches	2	0	0
Brussels Sprouts	3 sieve	3	0	4	Parsnips.....	dozen	0	0	6
Cabbage.....	dozen	1	0	2	Peas.....	quart	0	0	0
Carrots.....	bunch	0	4	0	Potatoes.....	bushel	3	6	6
Capsicums.....	per 100	1	6	2	Kidney.....	bushel	4	0	0
Cauliflowers.....	dozen	3	0	6	Radishes.... doz.	bunches	1	0	1
Celery.....	bundle	1	6	2	Rhubarb.....	bundle	0	0	0
Coleworts.... doz.	bunches	2	0	4	Salsify.....	bundle	0	9	1
Cucumbers.....	each	0	4	1	Scorzoneria.....	bundle	1	0	0
Endive.....	dozen	1	0	2	Seakale.....	basket	0	0	0
Fennel.....	bunch	0	3	0	Shallots.....	per lb.	3	0	0
Garlic.....	per lb.	0	6	0	Spinach.....	bushel	2	6	0
Herbs.....	bunch	0	0	0	Turnips.....	bunch	0	2	0
Leeks.....	bunch	0	2	0	Veg. Marrows..	each	0	2	0

WEEKLY CALENDAR.

Day of Month	Day of Week	OCT. 31—NOV. 6, 1878.	Average Temperature near London.			Sun Rises.	Sun Sets.	Mean Rises.	Mean Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
31	TH	Sale of Nursery Stock at Cambridge.	54.0	38.0	46.0	6 54	4 34	1 10	9 10	6	16 1	304
1	F	ALL SAINTS' DAY. Kemper died, 1716.	54.3	37.9	46.1	6 56	4 32	1 35	10 27	7	16 18	305
2	S		54.4	37.3	45.8	6 57	4 30	1 53	11 41	8	16 19	306
3	SUN	20 SUNDAY AFTER TRINITY.	53.5	35.9	44.7	6 59	4 28	2 7	morn.	9	16 19	307
4	M		52.1	36.6	44.3	7 1	4 26	2 20	0 52	10	16 18	308
5	TU		52.9	37.2	45.0	7 3	4 25	2 31	2 1	11	16 17	309
6	W	Sale of Bulbs at Stevens's Rooms.	52.4	36.9	44.7	7 5	4 23	2 43	3 9	12	16 14	310

From observations taken near London during forty-three years, the average day temperature of the week is 53.5°; and its night temperature 37.1°.

NOTES ON PEARS.

WITH the return of the planting season a few notes on the results of five years' experience of more than fifty varieties of Pears may be of use to your readers in making a selection of the best sorts to provide a continuous supply of first-rate fruit from August to March. It is comparatively an easy matter to name fifty or a hundred good Pears, but few gardens are large enough to grow so many, and the object of my experiments has been to test all the best-known kinds I could obtain as to their merits and time of ripening. I began by reading through the descriptions of Pears in Dr. Hogg's "Fruit Manual" and noting down all the best, the result being a list of four or five times as many as I could possibly find room for; but by arranging them according to the time of ripening as given in the "Fruit Manual," and carefully comparing their relative merits, I at last managed to reduce the list to between fifty and sixty, which were planted on the Quince stock and trained as oblique cordons on a wire trellis to obtain fruit in the shortest possible time. From the results of five seasons' experience I should make the following selection. *Dessert* :—

August.—Beurré Giffard, small; and Beurré de l'Assomption, large.

September to October.—Williams' Bon Chrétien, large; Souvenir du Congrès, very large; Madame Treyve, large; Beurré Superfin, large; Comte de Lamy, small; and Seckle, small.

October.—Louise Bonne of Jersey, medium size.

November to December.—General Todtleben, very large; Maréchal de Cour, very large; Thompson's, large; and Doyenné du Comice, large.

December to March.—Winter Nelis, small; Beurré d'Anjou, large; Nouvelle Fulvie, large; Joséphine de Malines, small; Bergamotte Esperen, small; Olivier de Serres, small; Prince Napoleon, small; and Easter Beurré, large.

For Cooking.—Catillac and Bellissime d'Hiver.

They are placed as nearly as possible in the order of ripening, and will provide a continuous succession. Beurré Giffard comes first and has proved superior to Jargonelle, which is generally considered the earliest good Pear. Citron des Carmes and Beurré d'Amanlis are not worth growing here. Beurré de l'Assomption ripens at the end of August, just before Williams' Bon Chrétien, is a very fine large fruit, perfumed, juicy, and of excellent flavour. Williams' Bon Chrétien is too well known to require description, and is followed by Souvenir du Congrès, which is very much like it, only larger and later. Madame Treyve is a large juicy Pear with a delicate noyau flavour, ripe in the beginning of September; and is followed by Beurré Superfin, another fine large Pear, with a delicate perfume and fine flavour. Comte de Lamy comes in about the same time—the end of September or beginning of October, and though small is a most delicious Pear, being very juicy and richly flavoured, comparing in this respect with Seckle, another small Pear of the highest excellence; Seckle being the richer of the

two, while Comte de Lamy is the most vinous. The birds, no mean judges in such matters, always select these two Pears; and this season, though discs of cardboard were placed over the fruit, as recently recommended by Mr. Radclyffe in the Journal, I have not secured a single unpecked fruit. Confound the little rascals, there is no circumventing them, and one feels sorely tempted to take one's revenge in lark pies, or to run over to Paris for a week to see the finish of the Exhibition and learn how they cook small birds. In this way one might even discover a use for the sparrow. But to return to our subject. The Pears hitherto mentioned, like nearly all early Pears, require careful watching when ripening, as they are liable to go at the core; experience is the best guide, but when in doubt play a trump—i.e., cut into one.

The next on the list, Louise Bonne, is *par excellence* the October Pear, and with proper management can be made to last a whole month, as it keeps for several days even when quite ripe, and remains sound at the core to the last. It is of medium size, very juicy, and of delicious flavour; but sometimes, especially with highly coloured fruit, slightly astringent. General Todtleben ripens in the beginning of November, is a very large handsome fruit with pink flesh, of a peculiar perfumed flavour something like rose water. It is well worth growing, but the fruit goes at the core, and the blossom is tender, being very liable to be cut off by spring frosts. About the same time Maréchal de Cour comes in, and is a fine large fruit with soft buttery flesh and abundant highly flavoured juice. Thompson's ripens in November, and is one of the very best—buttery, very juicy, and exceedingly rich. Another very good Pear is Doyenné du Comice, ripening from the middle of November to December; it is hardy, bears well, and produces fine large fruit, very juicy, rich, and highly flavoured; as good as a Peach.

The last five named are the pick of the autumn Pears, and if more are wanted Marie Louise may be grown, or British Queen, both very tender in bloom and liable to be cut off by spring frosts. Duchesse d'Angoulême, sometimes good, but generally gritty; Beurré Diel, large and showy, sometimes good, often mealy and insipid; Glou Morceau, uncertain, sometimes very good. These last three Pears are very fine as imported from the Channel Islands and France, but our climate does not suit them, except in favourable situations. Chaumontel is another of the same description; where it succeeds it has the great merit of ripening gradually, and consequently lasting over a long period. Goubault is a hardy free-bearing Pear, highly flavoured but deficient in juice. Gansel's Bergamot is good. Durondeau and Dr. Trousseau are very highly flavoured and juicy, but too astringent. Beurré Clairgeau is only a show Pear; and Doyenné Boussoch and Beurré Bachelier are very large and handsome, but utterly worthless. Forelle is very pretty and good for nothing. Beurré Hardy, Beurré Bosc, and many more might be mentioned, but with me they are not satisfactory.

Having disposed of the autumn Pears, we now come to the winter supply, which is always rather uncertain, as the time of ripening can no longer be relied on, varying more

or less each season. First comes Winter Nelis, a small Pear of the best quality, very juicy, and of the richest flavour; ripe about Christmas. On a wall it is improved in size but not in flavour. Beurré d'Anjou is a large buttery Pear, juicy and very good; ripe in December or January. Nouvelle Fulvie is one of the very best late Pears, being large, very juicy, and of delicious flavour; ripening in January for the three seasons that I have fruited it. Joséphine de Malines, generally ripe in February, is small, pink-fleshed, with rose-water flavour, very juicy, and surpassed by no late Pear when in perfection. Bergamotte Éspérén is another very good small Pear, and should be tried on a wall to increase the size; and the same applies to Olivier de Serres and Prince Napoleon, which I have only fruited for one season. Knight's Monarch has altogether failed with me, sometimes dropping its fruit, and in other seasons remaining quite hard till the end of February, and then shrivelling without ripening. For the autumn and early winter months we have more than enough Pears of the highest quality, the only difficulty being to decide which to select out of so many that are first-rate; but a good large late Pear that could be relied on to ripen well in February or March would prove a decided acquisition. Magnificent fruits of Easter Beurré are annually imported from France and the Channel Islands, but this Pear proves very uncertain in our climate. The first season I had it very fine, equal to the best foreign fruit; then for four years in succession it failed to ripen satisfactorily, sometimes remaining quite hard till midsummer. This season, judging by appearances, I believe it will prove good again, as the fruit is large and well developed, weighing from 8 to 12 ozs. each, and with a clear smooth skin free from blemishes. Beurré Rance is a large late Pear, exceedingly juicy, but deficient in flavour.

For cooking, Catillac and Bellissime d'Hiver are immeasurably superior to all others. As a curiosity Belle Angevine may be grown on a wall, but for use by all means plant all the Catillac you can find room for either as bushes or cordons.

To obtain Pears in perfection, especially the later varieties, a suitable storeroom is absolutely necessary. No Pear should be allowed to ripen on the tree, even the earliest varieties being gathered just before or while they are changing colour. A properly fitted-up fruit room is a great convenience, but any cool dry cellar will answer; the exclusion of light and maintenance of a uniform temperature being the chief requisites for keeping fruit, and a warm place to develop the flavour while ripening. I put mine in shallow boxes each holding about two dozen fruits, examining them occasionally to see that none decay, and when ripening the boxes are transferred to a warm cupboard behind a chimney with a temperature of 65° to 70°. The name of the contents with probable time of ripening is marked on each box.

An important point in the culture of the trees is to mulch well early in summer, especially for trees on the Quince stock, the surface roots of which are liable to suffer from drought, when, instead of swelling off to the full size, the fruit becomes stunted and cracks.—ESSEX.

ROSES AND ROSE SHOWS.

ROSE SHOWS were made for Roses, and not Roses for Rose shows. Most of those who write about Roses in "our Journal" seem to forget this. The election lists are made out as though the one object of everyone who grows Roses is to fat them up like prize pigs for the show boards. The biggest, and the fattest, and the roundest wins. He who can show twelve big, fat, and round blooms, the produce of five hundred bushes, does well; but he who can show forty-eight big, fat, and round ones from five thousand bushes does better—nay, he is a hero, a Hercules!

As "A PUPIL OF REYNOLDS HOLE" pertinently remarks, "for one exhibitor among those interested in Rose lore there are perhaps ten thousand who grow the Rose simply for the pleasure it affords to themselves and friends, loving it for the grace and beauty it sheds around their quiet gardens." And who shall deny that this quiet enjoyment, which excites none of the baser feelings of our nature, is quite a sufficient recompense for all the toil and trouble bestowed on the cultivation of this peerless flower?

Now, after this, would you be surprised to hear that I am an exhibitor myself? I am, indeed; but I candidly confess that exhibiting is only a secondary consideration with me. I do it, but do not altogether like it. The excitement and the

worry, and the hurry and the sounds of the conflict, have no charms for me. The Roses themselves never seem to me to look happy stuck up in stiff rows with an unnatural precision, and those who show them look even less happy, as with flushed faces and nervous fingers the work of "setting up" is carried on. How grand (not lovely; blooms are all grand at shows) the box looks now that the work is complete! But somehow I do not seem to enjoy the grandeur or feel grateful for the splendid ranks. The thought will occur to me, "Why do not the judges begin? That Jacqueminot, now so superb, will be gone in half an hour, and that fellow D cut his Roses twelve hours after I did. Mine will have no chance against his unless," &c., &c. This may be pleasure to "A LOVER OF ROSE SHOWS,"—who, by the way, can see no difference between La France and Capitaine Christy!—but to me, who am a humble lover of Roses, it is at the best painful fun and restless comfort.

Give me my quiet garden, where I can rest indeed and be thankful; where my Roses look up at me and I look down on my Roses with calm unruffled brow, and where my Jacqueminots come and go each in his own appointed time without fretful blowing to hasten, or swaddling bands to retard their brief career.

Thus it is that, although an exhibitor, I heartily endorse Mr. Radclyffe's opinion that the election should not be confined to Roses for exhibition only. If it is to be of use to the majority of readers we must put Roses first and Rose shows second. Indeed, seeing that the number of exhibitors and would-be exhibitors is so limited, is it not rather a mistake to speak and write so much about Roses for exhibition? Does it not deter some from using the lists and other information given from time to time who otherwise would do so? Would not a classification be more useful to the generality of readers which gave—

1st, The Roses which produce freely blooms of the finest quality suited for either garden decoration or show.

2nd, The freest bloomers irrespective of the quality of the individual blooms.

3rd, Roses which produce occasional blooms of first-rate excellence, but are too uncertain for garden decoration either from tenderness, bad habit of growth, or hard opening?

Space will not permit me to enter into details, but it will be interesting and instructive to see how this classification affects the present election lists.

First of all Class 2, a very interesting one, is altogether cut out, although it contains many valuable decorative Roses. Safrano, Rêve d'Or, and Goubault among Teas; Anna Alexieff, Comtesse de Chabillant among Hybrid Perpetuals; and Charles Lawson, Mrs. Bosanquet, &c., in other classes are examples.

Next it will be gratifying to the many who grow the Rose but never exhibit to find that at least thirty-six of the seventy-two named as best for exhibition are also equally, or nearly equally, good for garden decoration; that out of the twelve at the head of the list only two or three (Marie Baumann, Louis Van Houtte, and Etienne Levet) are in any way doubtful as garden Roses when grown moderately well. The first and second should be grown on the seedling Briar, and will then be found freer in growth than on the Manetti. Etienne Levet, though a splendid Rose, is of too stiff and unyielding habit ever to make a garden Rose.

In Class 3, for uncertain Roses, will be found those that it pays only the exhibitor to grow. Even he finds that he has to keep up a stock of about a hundred plants of each if he wishes to make sure of cutting one or two show blooms on any particular date.

It may be useful to intending purchasers to name a few of these splendid rogues. You must speak of a man as you find him, so that I am aware that I lay myself open to objections from those growers who in other localities find that they do better than with me.

First choose Marie Finger in preference to Eugénie Verdier. The latter is a bad grower as a cut-back, the former good in every way and a richer colour.

Avoid Etienne Levet, Comtesse d'Oxford, Capitaine Christy, Xavier Olibo, Horace Vernet, Duc de Wellington, Emilie Hausburg, Elie Morel, Lord Macaulay, Marie Cointet, Duc de Rohan, Niphets, and Reynolds Hole. All the above are bad growers as cut-backs.

The following open badly:—Monsieur Noman, Star of Waltham, Monsieur Boncenne, Duke of Connaught, Madame Lacharme, and Edouard Morren. Several others in the list are open to objections of various sorts; while, strange to say, Princess Mary of Cambridge, one of the best all-round light Roses

that exists, good for garden, show, pot, or forcing, is not so much as named in the election list.—R. W. BEACHEY.

WINTERING CALCEOLARIAS.

HAVE any of your correspondents wintered their Calceolarias in an orchard house? If not, allow me to recommend the following plan which has been successful here:—A one-light frame is placed in the house facing south containing about 3 inches of sandy soil, into which the cuttings are thickly dibbled, well watered, and closely shut for some time. The advantages are—air can nearly always be given, therefore damping-off is reduced to a minimum; the plants can be daily exposed to the light instead of being enclosed in darkness for a week as is frequently the case with the ordinary plan, and if extra covering be required, which will seldom be necessary, it will be dry instead of being saturated with wet. The frame is 2 feet 10 inches by 2 feet 11 inches, and contains about 320 plants. In April they are planted in a cold frame out of doors, and gradually hardened off for bedding-out in May.—C. T. H.

GRAPES NOT COLOURING.

"A KITCHEN GARDENER" in his remarks under the above heading, without actually committing himself to the opinion that the very intensely hot weather experienced during July was the cause of a slight deficiency in the colour of his Black Hamburg Grapes, is evidently very much inclined to think that such was the case. As he remarks, want of colour is a very serious affair indeed—in fact, is the one great drawback to many otherwise very fine crops. Intense heat may be the indirect cause of failure; at the same time two houses of Grapes in one locality under different treatment not unfrequently present a marked contrast, consequently all the blame cannot in fairness be attributed to the very hot weather.

Modern vineries being very lightly constructed, presenting a greater surface of glass, and therefore a proportionate increase in the heat conducted, undoubtedly require a light shading, and nothing is better than limewash put on lightly with a syringe. Unless this is done the intense heat causes a too rapid evaporation, which has the effect of deranging the healthy action of the function of the leaves. Where the root-action is good, and is stimulated with plenty of moisture and the usual mineral elements, the effect, extreme evaporation, is almost imperceptible; where, however, the opposite is the case the effect is soon perceptible both on the foliage and fruit. The check given to the growth is soon followed by an attack of red spider, which no amount of humidity will prevent, the two evils making an imperfectly coloured crop almost a certainty.

A defect in the colour of Grapes is often caused by the excessive use of fire heat without giving the necessary amount of moisture and fresh air so requisite to vegetation generally, and growing Vines in particular. Why insist upon the house being kept to a certain temperature without any regard being paid to the external atmosphere? Overheating pipes is in effect as injurious as excessive sun heat, and perhaps more so, as the latter causes a liberal supply of fresh air to be given, which is seldom the case with the former. A hot dry atmosphere undoubtedly contributes to an earlier formation of saccharine matter in Grapes, in my opinion, however, at the expense of colour. "A KITCHEN GARDENER'S" second crop will, I think, help to corroborate this theory, as no doubt he will find them, if not sour, far from being sweet. The Vines being ripening receive the full amount of air both night and day, and the house naturally is not so hot and dry as when the full crop was hanging.

My theory, therefore, is that Grapes should be allowed plenty of time to ripen, admitting air at all times in quantities more or less according to the external temperature. The front lights often are kept hermetically closed, instead of which during mild nights they should be open as well as the top. The latter during the earlier stages of the Vine's growth should as much as possible be kept slightly open during the night, as at this time the action of the plant although changed is still going on. An artificial and unwholesome air is very injurious to the Vines, hence the necessity of admitting fresh air freely yet judiciously. The foliage of Vines grown under this treatment is very robust, and much better able to withstand any evils that may threaten it, to the great advantage of the fruit.

The accompanying bunch was cut from a Vine carrying a

fair crop of fruit growing in a large span-roofed plant house. This house is very lightly constructed of iron, and is quite the reverse of being well adapted either for plant or fruit culture. No fire heat has been applied at any stage of the Vine's growth, and the house has been full of plants throughout. For the benefit of both the plants and Vines the house was usually closed early during May and June, but a little air was always left on at night. During the extremely hot weather experienced during July the house was usually left wide open both at top, bottom, and doors. The fruit was coloured early in August, but the Grapes are only now becoming sweet, simply because August was a very dull month, and no fire heat was applied, which would have been had the fruit been of primary importance.—W. IGGULDEN, *Orsett Hall*.

[The bunch is good; berries large, regular in size, and well coloured, but not quite of the first quality.—EDS.]

THE ROSE ELECTION.—No. 6.

IN forwarding to you the last of the election lists of the seventy-two varieties I would draw the attention of the readers of "our Journal" to the effect of removing the fourth-class votes in this election of seventy-two varieties. How materially it alters the position of several of the Roses! Of the twenty Roses that received fourteen votes half only would retain their position as obtaining the highest possible score; amongst these Duchesse de Vallombrosa is to be found. The remaining ten which would lose position include Maréchal Niel, Etienne Levet, Horace Vernet, and the Eugénie Verdier set; Dr. Andry, Duke of Edinburgh, and Madame Victor Verdier losing one vote each; the Ferdinand de Lesseps set and Sénateur Vaisse losing two, and Xavier Olibo three votes. Some of those that score thirteen votes are sadly cropped by this, notably Star of Waltham and Madame Lacharme, the former losing four and the latter no less than seven votes. Lower down in the list the changes by such action would be disastrous to the position of many Roses, which would be driven altogether out of the list, notably dear old Général Jacqueminot and Victor Verdier, whilst a few would rise materially—to wit, Marguerite de St. Amand, Camille Bernardin, and Capitaine Christy.

In the following returns of seventy-two varieties the Roses are placed as the first best twelve, second best twelve, next best twenty-four, and second best twenty-four exhibition varieties.

Mr. CRANSTON, *King's Acre, Hereford.*

- | | |
|-----------------------------|--------------------------------|
| 1. Marie Baumann | 7. Etienne Levet |
| 2. Alfred Colomb | 8. Marquise de Castellane |
| 3. Charles Lefebvre | 9. Louis Van Houtte |
| 4. La France | 10. Marguerite de St. Amand |
| 5. Baronne de Rothschild | 11. Sénateur Vaisse |
| 6. Exposition de Brie | 12. Maréchal Niel |
| 13. Abel Carrière | 19. Reynolds Hole |
| 14. Comtesse de Serenye | 20. Xavier Olibo |
| 15. Comtesse d'Oxford | 21. Catherine Mermet |
| 16. Devienne Lamy | 22. Devonensis |
| 17. Dr. Andry | 23. Niphotos |
| 18. Monsieur E. Y. Teas | 24. Souvenir d'un Ami |
| 25. Alice Dureau | 37. Lord Macaulay |
| 26. Beauty of Waltham | 38. Madame Furtado |
| 27. Capitaine Christy | 39. Madame Lacharme |
| 28. Duke of Edinburgh | 40. Mlle. Eugénie Verdier |
| 29. Duchesse de Vallombrosa | 41. Mlle. Marie Rady |
| 30. Dupuy Jamin | 42. François Michelin |
| 31. Edouard Morren | 43. Monsieur Noman |
| 32. Elie Morel | 44. Prince Camille de Rohan |
| 33. Fisher Holmes | 45. Sir Garnet Wolseley |
| 34. Général Jacqueminot | 46. Belle Lyonnaise |
| 35. Horace Vernet | 47. Marie Van Houtte |
| 36. Duchesse de Morny | 48. Souvenir d'Elise |
| 49. Annie Wood | 61. Monsieur Boncnne |
| 50. Duchesse de Caylus | 62. Peach Blossom |
| 51. Hippolyte Jamin | 63. Princess Beatrice |
| 52. Jean Liabaud | 64. Princess Mary of Cambridge |
| 53. John Hopper | 65. Royal Standard |
| 54. Jules Margottin | 66. Star of Waltham |
| 55. Leopold I. | 67. Alba Rosa |
| 56. Madame C. Crapelt | 68. Comtesse de Nadailac |
| 57. Madame Charles Wood | 69. Jean Ducher |
| 58. Madame Thérèse Levet | 70. Madame Margottin |
| 59. Madame Victor Verdier | 71. Madame Sertot |
| 60. Pierre Notting | 72. Madame Willermoz |

Rev. C. P. PEACH, *Appleton-le-Street.*

- | | |
|---------------------|---------------------------|
| 1. Marie Baumann | 7. Marquise de Castellane |
| 2. Alfred Colomb | 8. Etienne Levet |
| 3. Mlle. Marie Rady | 9. Baronne de Rothschild |
| 4. Charles Lefebvre | 10. John Hopper |
| 5. Maréchal Niel | 11. Dr. Andry |
| 6. La France | 12. Emilie Hausburg |

13. Madame Victor Verdier
14. Comtesse d'Oxford
15. Abel Grand
16. Gloire de Dijon
17. Louis Van Houtte
18. Dupuy Jamain
25. Horace Vernet
26. Belle Lyonnaise
27. Le Havre
28. Thomas Methven
29. Marie Van Houtte
30. Annie Wood
31. Capitaine Christy
32. Duchesse de Vallombrosa
33. Souvenir d'un Ami
34. Souvenir d'Elise
35. Sénateur Vaisse
36. Sir Garnet Wolsley
49. Annie Laxton
50. Beauty of Waltham
51. Boule de Neige
52. Céline Forestier
53. Cheshunt Hybrid
54. Catherine Mermet
55. Duke of Edinburgh
56. Elie Morel
57. Hippolyte Jamain
58. Général Jacqueminot
59. François Louvat
60. Jules Margottin

Rev. E. N. POCHIN, *Barkby Vicarage, Leicestershire.*

1. Maréchal Niel
2. Alfred Colomb
3. Charles Lefebvre
4. Marie Baumann
5. La France
6. Baronne de Rothschild
13. Louis Van Houtte
14. Dr. Andry
15. Horace Vernet
16. Monsieur E. Y. Teas
17. Victor Verdier
18. Duke of Edinburgh
25. Duchesse de Vallombrosa
26. Xavier Olibo
27. Catherine Mermet
28. François Michelon
29. Comtesse d'Oxford
30. Comtesse de Serenye
31. Lord Macaulay
32. Mrs. C. Wood
33. Fisher Holmes
34. Star of Waltham
35. Devonensis
36. Pierre Notting
49. Madame C. Crapelet
50. Abel Grand
51. Ferdinand de Lesseps
52. Mlle. Marie Cointet
53. Princess Beatrice
54. Auguste Rigotard
55. Paul Neyron
56. Prince Camille de Rohan
57. Hippolyte Jamain
58. Duchesse de Morny
59. Duc de Rohan
60. Thérèse Levat

MR. DURBIN, *Englishcombe Rosery, Bath.*

1. Abel Carrière
2. Alfred Colomb
3. Capitaine Christy
4. Charles Lefebvre
5. Comtesse d'Oxford
6. Etienne Levat
13. Marie L. Pernet
14. Comtesse de Serenye
15. Fisher Holmes
16. Hippolyte Jamain
17. Mlle. Marie Finger
18. Madame Victor Verdier
25. Baronne de Rothschild
26. Abel Grand
27. Camille Bernardin
28. Dr. Andry
29. Duchesse de Vallombrosa
30. Duke of Connaught
31. Duke of Edinburgh
32. François Lacharme
33. John Stuart Mill
34. Lady Mary Keith
35. Louise Peyronny
36. Marguerite de St. Amand
49. Abbé Bramet
50. Anna de Diesbach
51. Annie Wood
52. Avocat Duvivier
53. Bessie Johnson
54. Duc de Rohan
55. Dupuy Jamain
56. Elie Morel

19. Thérèse Levat
20. Princess Mary of Cambridge
21. François Michelon
22. Duc de Wellington
23. Marguerite de St. Amand
24. Eugénie Verdier
37. Star of Waltham
38. Miss Hassard
39. Victor Verdier
40. Madame Lacharme
41. Fisher Holmes
42. Monsieur E. Y. Teas
43. Reynolds Hole
44. Monsieur Caillat
45. Duchesse de Morny
46. Maurice Bernardin
47. Souvenir de Malmaison
48. Edouard Morren
61. La Rosière
62. Madame Charles Crapelet
63. Maréchal Vaillant
64. Marquise de Mortemart
65. Monsieur Woolfield
66. Mrs. Baker
67. Prince Camille de Rohan
68. Pierre Notting
69. Royal Standard
70. Sultan of Zanzibar
71. Xavier Olibo
72. Wilson Saunders

7. Marguerite Brassac
8. Madame Victor Verdier
9. Marquise de Castellane
10. Mlle. Marie Rady
11. Duc de Wellington
12. Etienne Levat
19. Sénateur Vaisse
20. Marguerite de St. Amand
21. Edouard Morren
22. Emilie Hausburg
23. Dupuy Jamain
24. Baron de Bonstetten
37. Souvenir d'Elise
38. Belle Lyonnaise
39. John Hopper
40. Souvenir de Malmaison
41. Reine du Midi
42. Monsieur Noman
43. Capitaine Christy
44. Camille Bernardin
45. Reynolds Hole
46. Marie Finger
47. Souvenir d'un Ami
48. Annie Wood
61. Madame Clemence Joigneaux
62. Niphetos
63. Madame Lacharme
64. Madame Berard
65. Marie Van Houtte
66. Madame Hippolyte Jamain
67. Gloire de Dijon
68. Sir Garnet Wolsley
69. Centifolia Rosea
70. Baron Gonnella
71. Duchesse de Caylus
72. Comtesse de Nadailac

65. Madame Prosper Langier
66. Mlle. Bonnaire
67. Reynolds Hole
68. Jean Lambert

Mr. R. G. BAKER, *Heavitree, Devon.*

1. Marie Baumann
2. Charles Lefebvre
3. Alfred Colomb
4. Marie Rady
5. François Michelon
6. Marie Van Houtte
13. Monsieur Noman
14. Marguerite de St. Amand
15. Souvenir d'un Ami
16. Dr. Andry
17. Souvenir d'Elise Vardon
18. Abel Carrière
25. Maurice Bernardin
26. Abel Grand
27. Horace Vernet
28. Louis Van Houtte
29. Madame Victor Verdier
30. Duke of Edinburgh
31. Jules Margottin
32. Centifolia Rosea
33. Marchioness of Exeter
34. Devonensis
35. Comte de Raimbaud
36. Monsieur Gabriel Tournier
49. Sir Garnet Wolsley
50. Marquise de Mortemart
51. Madame Georges Schwartz
52. Jean Liabaud
53. Le Havre
54. Mlle. Eugénie Verdier
55. Duchesse de Caylus
56. Souvenir de Paul Neyron
57. Auguste Rigotard
58. Madame Lacharme
59. Magna Charta
60. Beauty of Waltham
7. Marquise de Castellane
8. Maréchal Niel
9. Baronne de Rothschild
10. Camille Bernardin
11. Monsieur E. Y. Teas
12. La France
13. Catherine Mermet
20. Duc de Wellington
21. Madame Bravy
22. Sénateur Vaisse
23. Hippolyte Jamain
24. Xavier Olibo
37. Duchesse de Vallombrosa
38. Caroline Kuster
39. Prince Camille de Rohan
40. Edouard Morren
41. Reynolds Hole
42. Madame Prosper Langier
43. Comtesse d'Oxford
44. Baronne de Bonstetten
45. Fisher Holmes
46. Lord Macaulay
47. Sultan of Zanzibar
48. Mrs. Charles Wood
61. Niphetos
62. Mrs. Baker
63. Auguste Neumann
64. Mlle. Marie Cointet
65. Madame Hippolyte Jamain
66. Victor Verdier
67. Duke of Connaught
68. Miss Hassard
69. Comtesse de Serenye
70. Madame de Montchateau
71. Etienne Levat
72. Prince Arthur

I have only named one of the three (Ferdinand de Lesseps, Maurice Bernardin, and Exposition de Brie), as they are so much alike.

Mr. Bulmer in his list has rather enlarged on his idea of last year as to similar Roses; and although in his soil he sees less similarity in Alba Rosea and Madame Bravy than some do—and in this I confess that with my small experience of them I incline to his view—yet about several of them he has no hesitation in considering them so similar as to be either Cæsar or Pompey according to the fancy of the namer. Before another exhibition election we may know more about Marguerite Brassac and its similarity to Charles Lefebvre (to me the latter is many shades the darker), and La Rosière and Prince Camille de Rohan. It strikes me these may possibly be added to the list of similar Roses, which for purposes of election may be considered identical. I now give Mr. Bulmer's list, premising that in the bracketed Roses the vote is given to that which is named first.

Rev. C. H. BULMER, *Credenhill Rectory, Hereford.*

1. Alfred Colomb
2. Marie Baumann
3. Charles Lefebvre
4. La France
5. Etienne Levat
6. Baronne de Rothschild
13. Dupuy Jamain
14. Marie Rady
15. Dr. Andry
16. Marguerite de St. Amand
17. Princess Mary of Cambridge
21. Monsieur Noman
22. Jean Liabaud
23. Exposition de Brie
24. Ferdinand de Lesseps
25. Sir Garnet Wolsley
26. Maurice Bernardin
27. Marie Van Houtte
28. Jean Souper
29. Duc de Wellington
30. Horace Vernet
31. Le Havre
32. Monsieur E. Y. Teas
33. Madame Victor Verdier
34. Beauty of Waltham
35. Star of Waltham
36. Sénateur Vaisse
49. Reynolds Hole
50. La Rosière
51. Prince Camille de Rohan
52. Monsieur Boucenne
53. Baron de Bonstetten
54. Pierre Notting
55. Sultan of Zanzibar
56. Fisher Holmes
7. Marquise de Castellane
8. Comtesse d'Oxford
9. Mlle. Eugénie Verdier
10. Mlle. Marie Finger
11. Louis Van Houtte
12. François Michelon
13. Maréchal Niel
17. Emilie Hausburg
18. Xavier Olibo
19. Duke of Edinburgh
20. Edouard Morren
21. Jules Margottin
22. L'Esmeralda
34. Camille Bernardin
35. Annie Laxton
36. Emily Laxton
37. Marquise de Gibot
38. John Hopper
39. Mlle. Marie Cointet
40. Madame Prosper Langier
41. Capitaine Christy
42. Duchesse de Vallombrosa
43. Comtesse de Serenye
44. Elie Morel
45. Madame Lacharme
46. Catherine Mermet
47. Souvenir d'Elise
48. Madame Caroline Kuster
55. Lord Macaulay
56. Comte de Raimbaud
57. Baron Hausmann
58. Thomas Mills
59. Devienne Lamy
60. Clotilde Rolland
61. Général Jacqueminot
62. Mrs. Baker

63. Victor Verdier
64. Centifolia Rosea
65. Madame C. Joigneaux
66. { Alice Dureau
Reine du Midi
La Ville de St. Denis

67. Duchesse de Morny
68. Madame Furtado
69. Madame Hippolyte Jarnai
70. Devoniensis
71. Souvenir d'un Ami
72. Comtesse de Nadaillac

I have arrived now at the completion of my task. In spite of errors and shortcomings I trust it may still be of some use to intending beginners of Rose-exhibiting; and although we cannot expect that all in the list of seventy-two varieties will be found universally useful, yet of this I am convinced, that very many amongst them are not robbers even to the garden Rose fancier; while to him who would succeed in the rosy contests of 1879 the large majority of those named in the lists are absolutely necessary, and will, brought to the highest state of perfection by skill, soil, and climate, charm the eye of the ignorant by their beauty, and arrest the fiat of the judges by their intrinsic exhibition qualities.

Once again in conclusion I tender very heartily my best thanks to all the voters for the help afforded me by their lists, begging them to receive these thanks collectively which time forbids me to send to each individually, and wishing to each of them some share of success in future contests with the Roses of their choice. After all those Roses are the best with each of us which prove to be *Al* on the day of exhibition, and which these may be is somewhat of a lottery; and hence most will require seventy-two varieties to stage forty-eight, a fact that large growers occasionally experience and smaller frequently learn to their cost. And thus to exhibitors and readers adieu.

—JOSEPH HINTON, *Warminster*.

THE VALUE OF PEAR WALLS.

DULL, cold, and wet was the spring, abundant the blossom on the fruit trees, giving rise to a passing gleam of hope—only a passing gleam, for hope of a crop of fruit vanishes before a succession of biting north-eastern gales, and it is only to trees upon walls of very genial aspect and in snug cosy corners that we could then turn for any signs of swelling fruit. Hard measure has Dame Nature dealt out to us during the last three or four springs, and well for us will it be if we can turn to account the stern lessons she has taught us. Weigh the matter well, regard it in all its bearings, and the result is inevitable of the supreme importance of shelter for insuring crops of Pears.

Of an extensive collection of Pears which I planted some six or seven years ago some were put inside a garden, others in an orchard, and others against walls of various aspects. Of all these trees, some hundreds in number, none have a good crop this season except those upon a wall facing the west, where the fruit of *Passe Colmar*, *Beurré Clairgeau*, *Fondante d'Automne*, and *Beurré Rance* is abundant and fine. The tree of *Beurré Clairgeau* on this wall invariably has a crop, and this year its fruit will be of especial service, not one of its representatives in the orchard having any. Of other sorts on this wall *Williams' Bon Chrétien*, *Maréchal de Cour*, *Doyenné du Comice*, and *Glou Morceau* have very little fruit, simply because they have made such robust growth annually since they were planted that blossom buds come more slowly upon them, but then when the trees do come into bearing the fruit will be much finer than it would had the roots been mutilated to induce a premature formation of blossom buds; and I am not only content to wait, but also anticipate an annual supply of fruit eventually from every tree in this favourable position—favourable not merely for shelter in spring, but for ripening the wood growth in autumn—a matter of vital importance. Without this wall I should have had very few Pears this year, and I commend it to the notice of all fellow sufferers who, although they may have no spare wall for fruit trees, yet probably have some sunny sides of outbuildings not yet turned to account.—EDWARD LUCKHURST.

CARPET BEDDING AT HAMPTON COURT.

A STRIKING example is afforded at Hampton Court of what may be termed the lasting beauty of carpet beds. Long after the regular flower beds were divested of their attractions, and even when the herbaceous borders assumed a "seedy" appearance, the carpet beds remained bright and ornamental. This fresh appearance of the beds, however, has been secured by artificial means. The beds are 24 feet by 12, and for each a canvas cover was provided, the cover being spread over the beds at night, and secured to pegs driven in the turf. Mr. Graham's object was to preserve the freshness of the beds

until November, and he has, except in the case of a few panels, such as *Alternantheras*, succeeded in that object. In future years the beauty of the beds will be still further prolonged, stocks of hardy low-growing plants suitable to this popular style of garden ornamentation being increased as rapidly as

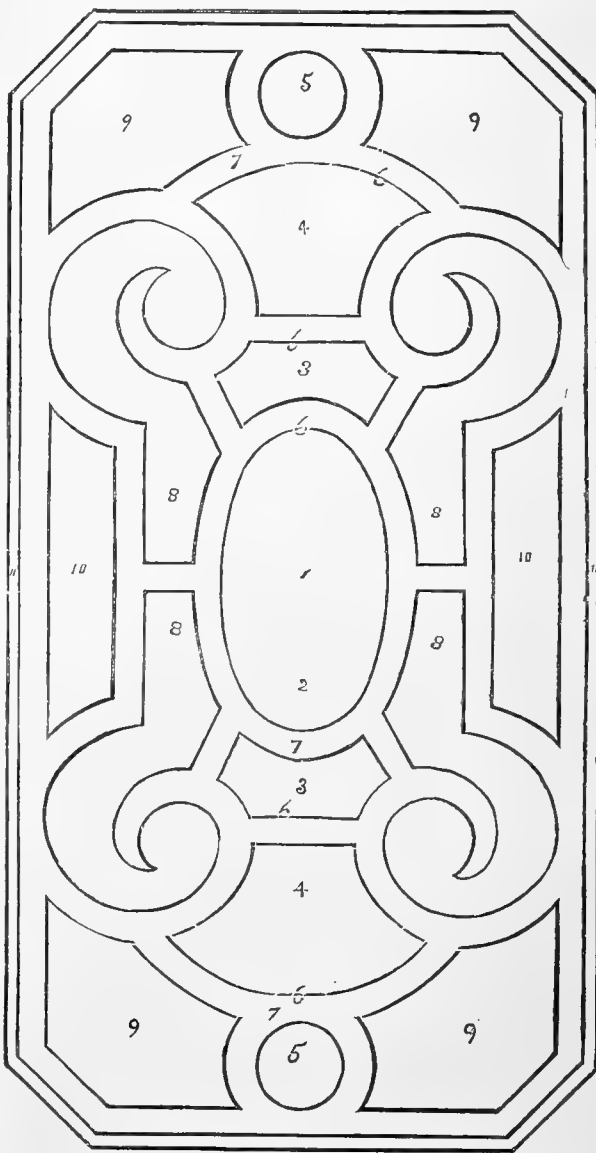


Fig. 53.—Carpet bed at Hampton Court.

- | | |
|---|---|
| 1. <i>Echeveria metallica</i> . | 7. <i>Mesembryanthemum cordifolium</i> |
| 2. <i>Pachyphyton bracteosum</i> . | variegatum. |
| 3. <i>Leucophyton Brownii</i> . | 8. <i>Alternanthera magnifica</i> . |
| 4. <i>Sempervivum montanum</i> . | 9. <i>Alternanthera paronychoides</i> . |
| 5. <i>Abutilon vexillarium variegatum</i> . | 10. <i>Antennaria tomentosa</i> . |
| 6. <i>Echeveria secunda glauca</i> . | 11. <i>Sedum glaucum</i> . |

possible. Even now a great portion of the plants employed are hardy or nearly so; indeed were it otherwise a sufficient number of plants for filling such large beds could not be raised with the extremely limited extent of glass at disposal.

In the bed, of which a diagram is submitted, hardy and tender plants are associated, the arrangement and finish of the bed constituting an admirable example of artistic leaf embellishment, for, as will be seen by reference to the mode of planting, no flowers are employed in the bed. The diagram is engraved because it is an excellent one, and because we have been requested to submit a plan adaptable to beds of the same shape as the one figured.

The carpet beds at Hampton Court and also in the London

parks are raised from 4 to 6 inches above the grass, this elevation adding considerably to their artistic appearance. Those intending to adopt this mode of decoration may well bear that point in mind at this the proper season of the year for making and preparing the beds.

BOTTLING FRESH FRUIT.

I WISH to say that I also had offered to me in the Paris Exhibition a similar recipe to the one spoken of in this Journal; but the fruit shown and said to be preserved in the same manner as the five-franc recipe was in glass bottles, was mostly divided into halves and quarters, and surrounded by what appeared to be a rich syrup. The plan of burning sulphur seems a very simple one, but do you think it would be likely to answer for any fruits besides firm ones, such as Apples and Pears? I am very anxious to find out some reliable way of preserving soft fruit, such as Damsons, Gooseberries, Currants, Cherries, &c., without the necessity of making them very sweet. This year I have succeeded with some bottles, whilst others have kept for a short time and then begun to ferment, causing the bladder to puff up. As all the bottles have been prepared in the same way I am very much puzzled to know why some bottles should keep so well. I have now a bottle of Gooseberries from last year's bottling perfectly good, and others fail through fermentation. My plan is—after filling wide-mouthed glass bottles with fruit they are placed over the fire in a fish kettle of cold water, which is gradually heated. When the fruit is cooked the bottles are lifted out and as quickly as possible tied down very carefully and tightly with bladder. Those that do keep are exceedingly good and taste like fresh-stewed fruit. If all the bottles would keep equally well I should be satisfied with my method. Can you or any of your readers suggest a cause why the result should be so variable? —A PUZZLED HOUSEWIFE.

NOTES ON ROSES.

I HAVE for some time past been intending to write on the *rexata questio* of Roses, Rose judging, and Rose elections, &c., but have not hitherto been able to find time or opportunity. I cannot resist saying something now, especially as the recent Rose returns given by Mr. Hinton are naturally calling general attention to the subject. First I must, with other rosarians, heartily thank Mr. Hinton for the trouble he has taken. I know from experience, though a lesser one than his, how difficult it is to get returns, and when you have them how much time and care are necessary to compile them properly. Mr. Hinton's return is very careful although elaborate, and great credit is due to him for his services to the Rose world, even *pace* "WYLD SAVAGE." I cannot help saying to my friend "WYLD SAVAGE," it would be better if he were to use a little more discretion with his zeal. To call an election such as last year's a mockery, snare, and delusion is a very good penny-a-line statement and may run glibly from the pen, but the old adage, "Think twice before you speak once" might be even better applied to writing. For instance, one who signed himself "A LOVER OF ROSE SHOWS," on the strength of what "WYLD SAVAGE" wrote about the two collections of Mr. Baker's and Mr. Jowitt's at Hereford, was induced to write to the *Journal of Horticulture* to find fault with the judgment, although he was not there himself and had seen none of the Roses. "WYLD SAVAGE" has so great a penchant for Teas himself, that a few more than ordinarily good Teas in a stand are sure to make him think the whole stand superior till he comes to take the points. With the difficulties he has to contend with in soil, and having also a forward climate, I am not at all surprised that he has found Teas repay his care more than other Roses; but (and this is a great but) no Roses are more liable to damage from damp weather, none that require more constant attention, none that do so badly in the neighbourhood of large towns or smoky manufactories. He seems to pride himself on having written down Gloire de Dijon, and yet it is classed as a Tea, and if I am not mistaken will regain the position of which it has been temporarily, and to my mind very unnecessarily, deprived. I say advisedly, Classed as a Tea, for I have always doubted and still doubt if it is a true Tea; and as in Mr. George Paul's Rose list, which I have just been looking through, he has suggested a new class of Hybrid Teas, so I am inclined to enlarge the list by putting in such Roses as Belle Lyonnaise, Climbing Devoniensis, Devoniensis, Gloire de Bordeaux, Ma-

dame Berard, Gloire de Dijon, Madame Levet, M. Trifle, &c., and I should also class Maréchal Niel in this list as being neither a true Noisette nor a true Tea. Cheshunt Hybrid, Cloth of Gold, and one or two others have been in my opinion hitherto placed in their wrong class; and while I mention Cheshunt Hybrid, though I was a good deal called over the coals for not sufficiently appreciating it, yet I cannot help remarking it has not won its way into either seventy-two, and though undoubtedly a vigorous grower and a free bloomer has not the quality ever to make it an exhibition Rose, nor will it ever rise above the character of a good garden Rose.

While speaking of "WYLD SAVAGE" and his zeal for Teas I cannot refrain from saying a few words to back up my friends Canon Hole and Mr. Pochin. They have both of them the disadvantage of backward climate to contend with, and in my friend Canon Hole's case (though in this he will not altogether agree with me) he has to contend also against a cold soil; and though a clay soil under good care may on the Briar and in favourable conditions produce the finest blooms, yet it is not fair to compare Roses grown by the ten thousand in warm climates at the early Rose shows and refuse the due meed of praise to the Roses produced under less favoured circumstances at later shows. But I go rather further still, and say, though I do not profess, as "WYLD SAVAGE," to attend every principal Rose show, that I have seen both Reynolds Hole and the Rev. E. N. Pochin show as good forty-eights, thirty-sixes, and twenty-fours as any I have seen exhibited by any amateurs. "Comparisons are odorous," as Mrs. Malaprop says, and there is no wisdom in setting up Hercules and his competitor on a pedestal. In saying this I have no wish to detract from the merit of either Messrs. Baker or Jowitt; and it was a great source of satisfaction to me, on meeting Mr. Baker as a coadjutor at the Crystal Palace this year, to find how entirely we were in accord as to our awards.

I do not glean that "WYLD SAVAGE" is altogether right about Catherine Mermet; it is 28 in one list and 23 in the other. But how about Belle Lyonnaise? It is 66 in one, I cannot find its name in the other, so that a second year does not make it superior to Gloire de Dijon in the general estimate; and I cannot help saying with regard to the last old friend, that if it came out as a new Tea, called we will say Monkton Wyld Hybrid, there would be as great an outcry as ever about it. Is there any Rose that blooms earlier, more constantly, or later?—any which will stand all the vicissitudes of climate, soil, or stock as it will? At present I know of none; and if I were asked what one Rose a man ought to plant I should say old Glory.

One thing: with due deference to "WYLD SAVAGE" and without wishing to depreciate nurserymen, I do not think they are by any means better judges of Roses than amateurs; and, as is often the case, mothers think their own children superior to anyone else's, so many raisers of Roses are inclined to put too high an estimate on their own seedlings. It is very difficult to look on one's own productions with an impartial eye. One thing certainly strikes me as strange in the recent election, that only one Rose—Marie Baumann—has secured universal suffrage in the first twelve; that only four Roses are mentioned in the first list of forty-eight varieties by everyone; and that any elector should altogether omit such Roses as Alfred Colomb, Etienne Levet, Maréchal Niel, Marie Rady, Marquise de Castellane, &c., out of the forty-eight and substitute some others in the place of them. I could name at least twenty that every rosarian should place in the forty-eight. In the second list of seventy-two twenty are named by all, and Alfred Colomb gains its more legitimate position, being two instead of seven. I cannot subscribe to the verdict that Marie Finger and Eugénie Verdier are identical, and I am equally sure that Exposition de Brie differs from Maurice Bernardin. I do not say the differences are great, but they are quite perceptible; and I fancy both Marie Finger, Ferdinand de Lesseps, and Exposition de Brie hold higher positions than they otherwise would have done had not all the votes been classed together. But this is only an opinion of my own, and is, like all private opinions, liable to correction.

I should like an election of new varieties, say, each year of three years from the current year—*i.e.*, in 1878 of Roses introduced into the trade in 1875, 1876, 1877, to name twenty-four, marking the first twelve, and to limit the electors to six amateurs and six nurserymen, the nurserymen to name the amateurs and *vice versa*. The election shows an inclination to enlarge on the merits of certain new Roses at the expense

of old friends, notably Duchesse de Vallombrosa and Capitaine Christy. I am pretty confident that the last is overrated, and its position in the second list, where it is 37 instead of 20, bears me out. I fancy Duchesse de Vallombrosa will prove a fine-weather Rose, and, like Mons. Noman, will by degrees fall out of favour. I have always, from the first time I saw and grew Marie Baumann, thought it the most perfect Rose in form, shape, and colour; in its own colour; and though I agree with Mr. Hinton I should like a little more vigour and strength in the neck, yet I believe the very fact of its being inclined to hang its head is one of the reasons why it produces so many perfect blooms. It is not scorched by the sun nor is it injured by the rain in the same way as some other Roses are. All Roses that have too soft an outer petal, and that catch the rain in the calyx and are injured by damp, may produce under propitious circumstances good blooms, but should not be classed among the premier Roses. Mons. Noman, Marie Van Houtte, M. Lacharme, are with me very liable to this, and as a general rule more than half the blooms either are glued together by the outer petals or rot off at the calyx.

I may conclude these remarks by saying that undoubtedly "WYLD SAVAGE" has the best of Mr. Douglas and "GILLY-FLOWER" about dressing Carnations, and I quite agree with "D.;" but as I have often seen Tea Roses tied to pieces of stick to support their heads, persons who live in glass houses must not throw stones. No dressing, tying, combing, &c., of any sort—no addition of any kind should be allowable; the only thing admissible is to remove a damaged petal.—C. P. PEACH.

HAMBLEDON DEUX ANS APPLE.

Two years ago I noticed in the fruit shops in a thriving town in Hampshire a large, roundish, greenish red Apple. These seemed to be abundant, and were for sale during the later winter months. There was a hardy, healthy, wholly unshrivelled look about them; indeed they looked as if they had only just been gathered, which at any rate could not be in February. Upon inquiry I found that the owners of the shops called them, as I understood the word, "Dusand." Upon asking how it was spelt the good women, possibly not being good in regard to their orthography, declined to say, adding, however, "that they were a good old-fashioned sort, and that there were plenty thereof." The Apples were so weighty and firm, and I was assured, which I fully believed, that they were capital keepers, that I felt interested in them. Being convinced of their excellence I searched on my return every catalogue in my possession; still no Dusand. I hunted the name in the "Fruit Manual." I ran my eye along the synonyms in that same work; still no Dusand. Not long after, if my memory serves me right, our old friend Mr. Robson mentioned in one of his articles the Apple Dusand with commendation. Here, then, was an additional proof and evidence of its goodness. Bearing this Apple in my mind I was still determined to find all about it and its right name; so on a recent visit to the same town I went to the nursery (a very good one, by the way, for a small town), and asked after a local Apple called Dusand, but received for reply that no such Apple was known in those parts. I replied that the thing was impossible, as they abounded in the fruit shops there. The foreman I addressed looked up and looked down. I might, if given to romancing add, "he took off his hat and peeped in the crown;" but I rather think without romancing he scratched his head, which seems often an aid to memory, possibly a sort of counter-irritant, like a mustard plaister to the chest. Well, the result of the foreman's appeal to memory was, "Surely, sir, you mean the Dewsum Apple. We have plenty of them, and capital croppers they are, and healthy trees too, and the Apples are such good keepers." Where do they come from? "Why, from up the country, where they are very common." I left the nursery, and found from a friend that the large village of Hambledon was in the direction indicated; and I concluded, and I believe rightly, that the correct name of the Apple is Hambledon Deux Ans, which paraphrased means that this Apple will keep two years, a strong proof of the good quality of long remaining in a cooking condition.

But my search was continued. Upon telling my story to a gentleman long a resident in another part of Hampshire I was told that he knew them by the name Jewsums, and, as the lady smilingly added, "called by our old man the Juicyuns." She also added that they are capital keepers, and need not, if room be lacking, be laid so apart as others, but will keep "like

Potatoes." Here, then, we have that good capital Apple Hambledon Deux Ans, which has travelled to Dusand, Dewsum, Jewsum, even to Juicyuns. Of the great merits of the Apple I have no manner of doubt—good cooking, not waste in cooking, and long keeping. And mark you, good keepers are some years bad keepers, as this year; and a hard, heavy, unbruisable Apple that really will keep to late on in the season is doubly valuable. My own opinion of Hambledon Deux Ans is so high that I have ordered some trees to add to my collection.

In conclusion I will quote the account from the "Fruit Manual," which is so accurate that I chiefly identified the Apple from that account.—"Fruit large, 3 inches wide, and 2½ inches high; roundish, rather broadest at the base. Skin greenish yellow in the shade, and dull red streaked with broad stripes of deeper and brighter red on the side next the sun. Eye small and closed, set in a rather shallow basin. Stalk short, inserted in a shallow cavity. Flesh greenish white, firm, crisp, not very juicy, but richly and briskly flavoured. One of the most valuable culinary Apples, and not unworthy of the dessert; it is in use from January to May, and is an excellent keeper. This variety originated at Hambledon, a village in Hampshire, where there are several trees of a great age now in existence."—WILTSHIRE RECTOR.

MARIE VAN HOUTTE ROSE.

THE Rev. W. F. Radclyffe and "A PUPIL OF REYNOLDS HOLE" have both sung the praises of various Roses, so, perhaps, I may be pardoned for once more extolling that splendid Tea Rose Marie Van Houtte. More particularly as an autumn Rose do I wish to recommend it. No Rose blooms so late and so freely with me as does this lovely Tea.

The other day I had a request from a lady to send her some white or yellow Roses for a funeral, "if I had any late ones still left." I was able to send her a fairly large basketful of Marie Van Houtte. The blooms, too, were equal to any, if not superior, I had in the summer. On November 4th I hope to bring you some myself, to show you how good a bloomer this Rose is in the late autumn. Herbaceous plants like Chrysanthemums which bloom at this season are indeed most valuable, but are nothing in comparison with Tea Roses.

Marie Van Houtte is with me the most vigorous grower of all Teas, and I cannot understand her low position on the poll. It must be that this Rose requires a mild climate so that many cannot grow it, for I am sure if the electors could grow such blooms as those I am alluding to this Rose would be in the first twenty-four. I am strengthened in my opinion by Mr. Cranston, who classes this Rose as a moderate grower in his catalogue. I have written to him on the subject, and he assures me that with him she is a moderate grower. At Exeter she grows as vigorously as Cheshunt Hybrid.

After Marie Van Houtte as a late bloomer I do not think there is a better one than the old Rose Jean Pernet. I cut a bloom of this Rose this morning equal to any Cloth of Gold I have ever seen. I do not believe that many people grow Jean Pernet; if I am correct I would advise all to procure some plants this season. Triomphe de Rennes and Céline Forestier are both good late bloomers, and Souvenir de Paul Neyron does much better in the autumn than in the summer. I do not find either Catherine Mermet or Souvenir d'Elise good this season, at least I have not this year cut any blooms.—WYLD SAVAGE.

NOTES AND GLEANINGS.

FOR his extraordinary and well-sustained energy as an exhibitor of plants, &c., at the PARIS EXHIBITION Mr. John Wills has been honoured with the grand prize in the horticultural section, also a gold medal. Gold medals have also been granted to Messrs. James Boyd & Sons, Paisley, for a conservatory; to Messrs. Sutton & Sons, Reading, also a silver medal, for seeds, &c.; to Messrs. J. J. Thomas & Co., 285, Edgware Road, London, for wirework for horticultural purposes; to Mr. E. Lumby, Halifax, also silver medal, for hot-water apparatus. The five gold medals awarded to Messrs. James Carter and Co. were noticed last week. Silver medals were granted to Messrs. E. Webb & Sons, Wordsley, Stourbridge, for preserved vegetables, and a bronze medal for seeds; to Messrs. Boulton & Paul, Norwich, for a conservatory; to Mr. J. Cavan Fox, South Kensington, for rustic buildings; to Messrs. Barnard, Bishop, & Barnard, for galvanised iron gates; to Messrs. Saynor, Cooke, & Rydal, for garden cutlery; to Messrs. Hartley and Sugden for heating apparatus; and to Mr. B. Edgington

and Mr. J. Unite, London, for tents. Several bronze medals were also awarded for products relating to horticulture.

— WE are requested to state that the portrait of the REV. M. J. BERKELEY, which has been painted by Mr. Peele for a few subscribers, will be presented to the Linnæan Society on Thursday next, November 7th, at 8 P.M. The presentation will be made on behalf of the subscribers by Sir Joseph Hooker. The portrait will be open for public inspection at all reasonable times. Those who have not yet sent in their contributions should do so without delay to the Hon. Treasurer, Dr. Hogg, 99, St. George's Road, Eccleston Square; or to the Hon. Secretary, Dr. Masters, 41, Wellington Street, Covent Garden.

— A CORRESPONDENT writes of an OAK standing in the churchyard fence of Headcorn in Kent. The girth of the trunk, he says, at about 5 feet from the ground is exactly 30½ feet.

— THE REV. W. F. Radclyffe states that he finds the SEEDLING BRIAR excellent as a stock, and as soon as Roses on it can be bought at the same prices as those on the Manetti he will buy them largely. He has the following Roses on the seedling Briar, which do excellently—namely, Marie Rady, Baronne de Rothschild, Maurice Bernardin, Pierre Notting, Reine Blanche, Marquise de Castellane, and Gloire de Dijon. A sign of brood has not been seen on them.

— PRIZES for GARDEN PRODUCE were competed for at Clonmel on the 23rd inst.—namely, a silver challenge cup given by D. H. Higgins, Esq., for vegetables, and a similar cup given by Lord Lisimore for fruits. His lordship's gardener, Mr. J. Wilshe, secured both the cups, having now won them two years in succession with collections of very great merit.

— THE best of all the white varieties of Mignonette that we have seen is GARRAWAY'S NEW WHITE. Its distinctness is not fully appreciated unless it is seen growing in large masses, when its whiteness is very apparent. We recently saw large beds of it in Mr. Cannell's grounds at Swanley, where this and other varieties are largely grown for affording cut flowers and seed. Miles's "Spiral" is the more luxuriant in growth, but Garraway's is preferred for bouquets.

— ONE of the most graceful of trees is the WEEPING WILLOW, and yet comparatively few trees are planted for purposes of ornament. Its scarcity in gardens is perhaps attributable to the idea, which is pardonably common, that the tree will only thrive satisfactorily in moist soils and positions. We have recently seen handsome examples of this Willow growing in dry gravelly soil in the suburbs of London, and while most of the surrounding trees were leafless or nearly so the Weeping Willows were green and attractive. It is one of the most suitable of trees for planting near the boundary fences of gardens abutting on public thoroughfares, its light green drooping foliage contrasting effectively with all other trees, while the tree overhangs just sufficiently to display its beauty without being obtrusively inconvenient.

— AMONGST the most distinct of TUBEROUS BEGONIAS are *Roseflora* and *Queen of Whites*. Messrs. Veitch have been fortunate in raising another variety of this type with bright crimson flowers, thus completing a trio of Begonias of great usefulness. The new variety possesses great substance of petal, and is remarkably rich in colour. The flowers of these Begonias are quite upright, and their stems proceed direct from the root. The plants flower with great freedom when planted out in cold frames.

— AS a small-growing tree for suburban gardens few excel the MOP-HEADED ACACIA, *A. inermis*. This distinct tree combines compactness with elegance in a remarkable manner. Some attractive specimens may be seen in Mr. Spurgeon's garden at Balham, the heads of the trees showing attractively above the evergreen shrubs amongst which they are planted. The renowned preacher appears to be an admirer of evergreens, for the front garden is not only densely filled with them, but small specimens in pots crowd the sills of all the windows, which impart to the pretty villa a snug home-like appearance.

— KIRKOVA (Turkey) is, says the *Daily News* correspondent, a little Garden of Eden—without the serpent. It is situated in a little nest of hills, clothed from base to summit with stunted Oak and Walnut trees. Every available spot of ground within a radius of a couple of miles is cultivated. Maize, Corn, Oats, Melons, and Vines flourish in profusion. From the door of the little hut in which I have found shelter

for the night I can count at least a dozen species of fruit and vegetables; Vines laden with yellow and purple Grapes are climbing Plum trees, the branches of which are borne to the ground by the weight of golden fruit; whilst luscious Water Melons, red, yellow, and pink, straggle here and there amongst the Indian Corn, shaded at irregular intervals by Pear and Apple trees. There is no post here, no telegraph; and if you speak to a native of this little village about a newspaper, he will probably think it is something to eat. But ask him for Melons, Grapes, Plums, Apples, Pears, or Blackberries, and he will overwhelm you with them at about half a farthing a pound.

— UNDER the heading of "A Roman Scourge" the correspondent of a daily paper describes the following mode of FORCING THE SALE OF VEGETABLES:—The *bagherini* are most fatal to commerce. They come at the very earliest hour to market, they sidle up in groups of four or five to a cartload of vegetables, and, as if for mere form's sake, they ask the price of it. After a long negotiation the *bagherino* flings a leaf upon the load, thus making it understood that he has acquired it; his confederates, like so many porters, immediately pounce upon the produce, and in a twinkling it is distributed among the retail dealers. In vain does the unfortunate owner resist this daily organised forcing system; his cries, his protests, his struggles, are alike unheeded; "the contract," he is told, "is concluded," and he cannot revoke it.

FROGS AND STRAWBERRIES.

IN the interesting article on page 289, on the culture of Strawberries, I find that frogs are charged with the crime of gathering and devouring the fruit. I believe that this is a case of involuntary false witness against the harmless Batrachian. The little heaps of Strawberries are gathered by mice for the purpose of extracting the seeds at their leisure. Having done so they have no further need of the fruit. But not so our slimy acquaintances the slugs, which rejoice in the repast heaped up for their delectation. Against them thus employed advances the frog, and rapidly transfers them to his maw. If, then, he is found sitting on the gathered heaps of Strawberries he is not to be ignorantly taken as the delinquent. He should rather be regarded as the gardener's friend, ridding him of his hated foes the slugs, which, though they have sins enough to answer for in all conscience, yet in this case are not the primary malefactors, but the nimble-footed mouse.—F. T., Dublin.

THE WARS OF THE ROSES.

I HAVE waited several weeks to see if anyone would answer Canon Hole's strictures on my remarks upon his place in the Rose contest. As none of those interested have done so I must conclude that they agree with Mr. Hole, Mr. Pochin, and others, and consider that I was not justified in relegating Canon Hole to the position of third best. This being so, and it being evident from the severe way in which he wrote about me that he considers himself very much hurt at my placing him in that position, I write to express my regret at having so placed him. And, indeed, I was not justified in so doing, as on consideration it is evident that a first prize at the Manchester National Show is equal to a first at the same Society's show at the Crystal Palace.

I hope that this explanation and apology will be satisfactory to Canon Hole and any other exhibitor in the midland counties who may consider that I have done injustice to so excellent a rosarian as the author of the "Book upon Roses."—WYLD SAVAGE.

SCHOMBURGKIA UNDULATA.

AS I directed my steps from Bogota in the direction of the Llanos, or the great Savannas, in the territory of St. Martin (New Granada), I came across this beautiful Orchid growing abundantly on the glittering schistose rocks of Quetame. Those bare rocks on which it grew, composed as they were of strata of a peculiar nature, inclined very often at an angle of 45° and even more; others, again, being quite in a vertical position, mostly presenting what is termed in geology a discordant stratification. Each strong pseudobulb had two broad and long leaves, leathery in texture and of the darkest green, from which rose the flower stem to the height of 3 feet to 4 feet 6 inches; on its extremity a beautiful cluster of flowers with undulated divisions, of a dark violet colour and with a red labellum, surmounted by large drooping bracts of a beautiful

rose colour, reminding one of certain *Billbergias*. The plant, however, has been known some time. M. Linden discovered it in 1841 on the Guayra, afterwards in Truxillo (Venezuela), and again in 1843 on the rocks close to the celebrated bridge of Icononzo at Tandi, New Granada. I have myself found the plant afterwards in 1876 on the rocks of Tandi, where M. Linden discovered it thirty-three years before. I also saw it again at

Panche and on the Rio Dagna, Columbia. The specimens which had served Dr. Lindley for the description and the naming the species ("Bot. Reg." xxx., 1844, p. 21) came from the Guayra. Afterwards Wagener on his tour in Ocana came across them again, as well as other travellers who sent living plants to Europe; yet for all that *Schomburgkia undulata* remains a comparatively rare plant.



Fig. 54.—GATHERING *SCHOMBURGKIA UNDULATA*.

The general complaint is that it does not bloom very freely. I firmly believe that the chief cause is improper cultivation, and that with suitable treatment it can be made to flower as freely as in its native habitat. All the plants I sent to M. Linden, which are now in perfect health, I got from the schistose rocks of Quetame, and very often endangered my life to reach them. The plants attach themselves with their strong roots tenaciously on the surface of the rock exposed to the full blaze of the sun. The altitude on measurement I found to be 6300 feet above the level of the sea, consequently quite a temperate region (*tierra templada*). Not a single drop of rain ever reaches them during the dry season. The only other

vegetation to be found are a few puny *Thibaudias*, some plants of *Marcgravias*, and an *Anthurium* resembling *acaule*, all tenaciously hooking themselves on to the dreary rocks. I found the plants in January, consequently in the middle of summer (*verano*). The flowers of this grand Orchid displayed their full beauty without suffering in the least from the effects of the long-continuing dry season. The foregoing will give an idea of what is required for the *Schomburgkias*. During their period of rest, which is generally between September and January, they must be kept perfectly dry, and even be allowed to flag, in a dry temperature of 65° to 78°. The blooming season being over, about March, they should then be subjected

for about five or six months to a humid atmosphere, so as to produce vigorous pseudobulbs and leaves. I am certain that if the above treatment is followed out plants of *Schomburgkia undulata* clothed with fine foliage and surmounted with magnificent flowers will be the result, proving a valuable addition to our Orchid houses.

I shall feel happy if by these remarks I have contributed to the better cultivation of those plants.—ED. ANDRÉ (in *Illustration Horticole*).

WOODWARDIA RADICANS.

I HAVE a *Woodwardia radicans* in my hardy fernery which is greatly admired. It has been planted out four years, and is protected during the winter months by a large bellglass, the fronds being wound closely round the crown. This year it has thrown up four fronds of the following dimensions—4 feet 1 inch by 2 feet 4 inches, 4 feet 2 inches by 1 foot 11 inches, 3 feet 9 inches by 1 foot 11 inches, and 4 feet 10 inches by 2 feet 3 inches, also two others not yet fully developed. The tops of last year's fronds, four in number, were pegged down some time since and have formed nice young plants.—C. T. H., *Osmington, Weymouth*.

[The growth recorded is very good.—EDS.]

GRAPES AT THE RED ROSE VINERIES.

The Grapes at this place—so graphically described by Mr. Wright some time since, are just now well worthy of seeing. When the extraordinary weight of the crop is taken into consideration, the great wonder is that the fruit ripened at all, but on the contrary, both fruit and wood are attaining perfect maturity.

At the time of our visit (October 14th) the sight of so many splendid Grapes in one house was simply magnificent, among the most noticeable being *Gros Colman*, which is colouring splendidly, and with a fine, deep, rich bloom that betokens an excellent finish. *Lady Downe's* also looks fairly well, but this variety would appear to have got out of favour there, seeing that Mr. Witherspoon has not planted a single cane of it in his new house. The best and finest looking Grape there is certainly *Black Alicante*; its noble appearance combined with excellent colour and great size of berry makes it the best of all market Grapes. Another good property that ought not to be lost sight of is its good keeping quality.

Among Grapes that have not done well there, and indeed they are the only ones, are *Dr. Hogg* and *Mrs. Pince*. The former has certainly kept its reputation for not shanking, but has displayed a constitutional weakness that has prevented it from maturing its fruit, and the berries have shrivelled up to one-half their original size. As to *Mrs. Pince* I should think that there has been an insufficiency of heat, as it, too, has not effected the desired maturation.

The great average excellence of the fruit is equalled by the superb condition in which we found the wood of the Vines, which is assuming that fine brown tint, hard firm appearance, and, what is of most importance, full plump eyes, so indicative of perfect maturation, and so full of promise for another year. This is to our thinking a matter of more import than the produce of a heavy crop, for let the next season be ever so favourable if the wood has not been perfectly ripened the previous year all our labour is lost, and the condition in which we found Mr. Witherspoon's Vines certify that he is fully alive to this important fact.

Just a word about the house referred to above. The young Vines in this house, planted this spring, have already reached the top of a 14-foot rafter, while a very great number of spring-struck eyes are noticeable for their vigorous growth. On inquiry Mr. Witherspoon informed us that these young canes were grown in pure turf, and watered with pure water, not a stimulant of any kind being used, and the healthy condition of both canes and roots which we examined bears out Mr. Witherspoon's assertion that nothing more is needed.—PETER FERGUSON, *Gardener, Weardale*.

BROWN & TAIT'S ECLIPSE CAULIFLOWER.

I HAVE been cutting heads of this variety for nearly a month from the same sowing, and I consider it the best Cauliflower for autumn use I ever grew. It is dwarf, compact, and the heads until too large for the table are well protected by the leaves; the quality is also good. I sowed in March on

a slight heat with a little protection, pricked out the plants as soon as large enough, and planted them out before they became stunted. They received one watering, but the ground was in good condition, it having been bastard-trenched in March after a crop of Coleworts, trenching-in stems, leaves, and all rubbish to hand. I intend growing this Cauliflower more extensively next season, as, having a large establishment to supply, it is essential that the best should be grown and in great quantities.—J. GADD, *Thorndon Hall*.

[The Cauliflower received was extremely fine, large, white, close, and of superior quality.—EDS.]

TURKEY COURT, MAIDSTONE,

THE RESIDENCE OF JOHN HOLLINGWORTH, ESQ.

MANY readers of the Journal have perhaps found out, like myself, that there is no paper preferable for writing on to the original Turkey mill (I say "original," because it has had many imitators, but they have fallen far short of the copy); but probably few know that the mills where it is manufactured are the property of one of our veteran Rose-growers, who has this year taken a new lease of power, and has astonished the natives by the beauty of his Teas. As long as I have known anything of Rose shows I have known "honest John Hollingworth." Many Rose-growers have met him, and will not perhaps be sorry to know something of the quaint old place which so exactly corresponds to its owner, or rather I should say its owners, for he and his brother alike take an interest in the place; and as I recently paid him a visit I will endeavour to give some idea of the place.

Turkey Court, the residence attached to the mills, is situated in a valley about a mile from Maidstone on the small river Len, which takes its rise at Lenham between Charing and Maidstone, and flows into the Medway a little further on. The Stour also takes its rise in the same parish, the one running east and the other west. I have been told the streams issue from the same field, but of this I cannot speak with certainty; the Stour at any rate has other sources, one of them being a remarkably strong spring in the parish of Westwell. Why these mills ever received the name they bear there is nothing to show. They have been in existence for many years, but in the writings connected with them there is no mention why the name was given to them. The place borders on the park of the Earl of Romney, the wall of the park being the boundary of the place on one side, and it is on this wall that the Teas are chiefly grown. But I anticipate. Let no one imagine that they are to see here a trimly kept rosery. The whole place is delightfully *negligé*. I do not mean neglected, far from it; but it is mixed up, Roses, and Conifers, and herbaceous plants, without any attempt at order. Some years ago a landslip occurred close by the mills, which threatened to destroy them altogether and created great doubt as to how they were to be dealt with. Engineers were brought down from London, and various plans devised. As in such cases doctors differ as well as in others it was finally determined to cart it away and fill up a pond, and this constitutes the larger portion of the present garden. Here are planted in different places Conifers which have encroached by degrees on the paths, which are all grass. Here is a fine specimen of *Thujaopsis dolabrata*, here another of *Cryptomeria japonica*, and here some well-grown Cedars of Lebanon. Then again we come on a mound over which the variegated *Vinca* is rambling at leisure, and another equally well covered with the Japanese variegated Honeysuckle. Amongst these we find beds of Roses, and notably in a lower part of the ground near the house, but the soil does not suit them. Like my own it is too light and rich, will grow most things to perfection but not Roses, except in a part of the garden where they would be quite out of sight. Many of the plants, too, are past their best, and I doubt not there will be a grand renewal this autumn, but Mr. Hollingworth has hit on a Californian mine of wealth for his Roses.

I have mentioned the wall of Lord Romney's park. From it there is a bank sloping down to the garden composed of rich unctuous loam; this, which was pasture, Mr. Hollingworth has turned up. On this bank the Roses are and will be more extensively planted; and I very much suspect that, good an exhibitor as he has been, he will yet, if his life be spared, surpass himself. His is another instance of the undying love of flowers when once it is encouraged. He was a keen sportsman, but he is now obliged to leave the partridges and pheasants to other hands; and although he has frequently said that he would give up exhibiting he has not found it in his heart to

do so, and is about as keen at it as ever. He has many amusing stories to tell of his exhibition days, now extending over a period of five and twenty years, some of them against himself; as for example, how shortly after the rule was introduced that addition of foliage would disqualify, he took up a splendid stand of twenty-four to the Crystal Palace beautifully encased in foliage of the best quality which he had carefully selected from his healthiest trees. As he looked down the stands in competition he came to the conclusion that he was an easy first. Imagine his consternation, when he came in to see his victory, to find his beautiful foliage rudely scattered on the box and "disqualified" written on his card. "Didn't I look down the other boxes to see if there were not others in the same predicament as myself! but alas! no. I was the only one who had not noticed the rule, and consequently the only one who had to bear the punishment." Nor does he grudge to see the victory snatched from his hand by another. How enthusiastic he was over the "dark horse" from Lincolnshire who came down to Maidstone this year and carried off the prize, Mr. A. G. Soames. "It was," he said, "a pleasure to see such an eighteen; and although several of our local men said it was too bad, I was heartily glad to see such Roses go in and win."

Adjoining his own property he rents land from Lord Romney, a large pond wherein Water Lilies, Reeds, and other aquatic grow in wild profusion, and where is one of the most beautiful examples of the lovely deciduous Cypress I have for a long while seen. As I looked over these grounds in various directions I could not but think, What a good opportunity for a grower of herbaceous plants, what fine bogs might be made, and how grandly almost everything would grow in one or another position in the garden!

Nor must I omit one other feature of the garden, a range of vineries 100 feet long, and filled with some of our best descriptions of Grapes. The Muscats were very fine, and I do not think that I ever tasted such Grapes as the Canon Hall Muscats grown there. Madresfield Court was also very good, and assuredly it was Grape-growing made easy. No nasty stokehole to descend into, no need of watching fires; there was simply a connecting link between the pipes of the house and the mills, and the stream flowed on night and day; the temperature once arranged never altered, and all risks were avoided. What more delightful for a gardener than such an arrangement as this? It is quite in accordance with the character of our good friend that he never sends a pound of Grapes to market, but distributes them amongst his friends, costing him, as he says, a little fortune in baskets.

Need I add, for he is a true rosarian, that nothing could be more hospitable than his reception, and I am sure all who love his favourites would meet with the same kindness that I did? May he long exhibit amongst us—one of the very "straightest" of all our exhibitors.—D., Deal.

DRESSING CARNATIONS.

AFTER all that has been written on this subject there yet remains a point or two that requires clearing up, especially as regards the legitimacy of one fancier growing the flowers and another fancier dressing them. Mr. Douglas has given direct evidence that dressing is all-powerful in winning prizes, for he has stated on page 242, in reference to some Hyacinths that he dressed for another exhibitor, that "they would have found no place in the prize list if they had been exhibited as grown," and further adds, "but I dressed them for him, and they obtained the first prize," and then asks "Who ought to have received it?" Most people, I think, who weigh the matter fairly will consider that the prize ought to have been shared between the grower and the dresser.

Subsequently it was suggested by "WYLD SAVAGE" that Mr. Douglas himself, who wins so many prizes, "does not dress all his own flowers." I quite thought that Mr. Douglas would have denied the imputation; indeed, I rather expected that he would have galloped in on the donkey he introduced on the page quoted and trampled the poor "SAVAGE" to death. Neither donkey nor rider have, however, since shown themselves in the arena. Instead of doing so your excellent correspondent "GILLYFLOWER," on page 311, answers for him, admits the truth of "WYLD SAVAGE'S" utterances, and makes an excuse for his friend Mr. Douglas. That excuse as put is a reasonable one; but the question is, Was it a matter of pressing anyone who happened to be present at the show to assist him in staging his flowers in time?

I have been a grower of Carnations in a small way for many years, growing about a hundred pairs. I have exhibited at local shows, and have been fairly successful in obtaining prizes; but I have not ventured to exhibit in London, neither am I likely to do so, for I feel that I should not be exhibiting under equal conditions if the practice prevails of allowing a grower to obtain the services of an expert dresser—dressing being, as Mr. Douglas has afforded evidence, of such primary importance.

For the purpose of judging of the quality of the blooms staged in London, and comparing them with my own, I made a long journey to see one of the National Carnation and Picotee Society's shows. I confess that many blooms surprised me, especially by the high quality of their dressing; but I was equally astonished to find an overwhelmingly greater number of inferior or inferiorly dressed flowers. While in the exhibition I entered freely into conversation with those surrounding the boxes. "Douglas first again," was the general buzz, and was responded to in various ways, one of which fairly startled me—it was, "Yes, and always likely to be when he gets Ben Simonite to go to Loxford to dress his blooms for him!" Thinking that a mere grumble of a disappointed exhibitor I took but little notice of it at the time, but now I think it fair to all who are interested that we should know whether the rumour which is evidently afloat is anything more than a rumour. Is it a fact?

I do not for a moment suppose that Mr. Douglas would do anything that he considered wrong or unfair; he has the reputation of being an honest exhibitor, as he is undoubtedly a good grower. It is evident that he does not think it unfair to dress another exhibitor's flowers and so win a prize for him, and it is therefore unlikely that he (Mr. D.) would object to another doing a like favour for him. But I, and I know others think with me, do not think the practice right. If I grow and dress my own flowers as well as I can I feel that I am seriously handicapped if I enter the lists against the best grower in England, who calls in the aid of perhaps the best dresser before he places his flowers in the stands. If that is not a "two-to-one" system of exhibiting I should like to know what is.

Your correspondent "GILLYFLOWER" writes admirably, also consistently, on dressing, and would "recommend that a prize be given for the best dressed flower, the dressing to be done at the exhibition, limiting the time of dressing to ten minutes," the object being, and an excellent one it is, to afford instruction to beginners in the art. Mr. Douglas must excuse me if I deem him less consistent. When "D., Deal," adduced his evidence against the excessive dressing of flowers Mr. Douglas was "down upon him" immediately, yet in a cutting from a paper that has been sent to me (not sent by anyone who has taken part in the present discussion) Mr. Douglas's name is attached to the following statement: "It is certainly better that the public should see and judge of the flowers in a natural state than when art has been employed to assist nature." That cannot be regarded as a youthful notion—an old opinion since departed from—for it was written in March of the present year. How does Mr. Douglas reconcile that statement with his acts of exhibiting flowers "dressed in the highest style of art?"—A STAFFORDSHIRE GROWER.

WORK FOR THE WEEK.

KITCHEN GARDEN.

THE haulm of Asparagus being ripe it should be cut off level with the surface, and after clearing off weeds, &c., dress the beds with salt, which will destroy slugs, &c., and at the same time act as a manure, applying it at the rate of half a peck per rod. If seaweed can be had it forms the best of dressings for Asparagus beds, and may be applied to the depth of an inch and covered with a little soil from the alleys, or a dressing 1 to 2 inches thick of rich manure may be employed, leaving it on all winter, forking it in carefully in the spring. Asparagus intended to be taken up for forcing should be covered with litter, so as to admit of its being lifted irrespective of frost. The leaves and stalks, if any are yet remaining, should be removed from Rhubarb and Seakale. For forcing those crops select roots which have not been cut or plucked, as those which have made an early and unchecked growth will have stronger crowns, and, ripening earlier, will start more freely into growth than those having received a check from cutting off the heads or plucking the stalks. Similar remarks apply to Asparagus. Seakale not intended to be lifted for forcing may be covered with about half an inch of ashes, and if a sprinkling of salt—about half the quantity given to Asparagus prior to putting on the ashes—is given it will do much in the way of slug destruction. Seakale intended for forcing under cover may be taken up

at once and be laid-in in a sheltered spot and be covered with litter, so that the roots may be readily removed as required. Rhubarb should have the surface soil removed from about the crowns with a fork, and a dressing of rich manure applied and covered with a little soil, the spaces between the rows and plants being well manured and forked in. That intended for forcing off the ground should be covered with litter, or it may be lifted and stored in sand or other material in a sheltered spot, and covered with some protecting material in readiness for draughting to heat as required. A few roots of Rhubarb and Seakale may be placed in the Mushroom or other house having a temperature of 55° to 60°, the roots being placed in moist rich soil, and no water given until growth takes place, then applying liquid manure. A bed may be made up of prepared dung and leaves duly fermented, and when the heat has risen and is found not to be too violent it may be planted with Asparagus, and managed as recently detailed by "A KITCHEN GARDENER." On a dry day take up Cauliflowers fit for use and store them in a pit where they can be protected from frost. Autumn Broccoli must also be attended to, or the heads now ready for use may be damaged by frost. Lettuces and Endives fit for use should be transferred to frames or pits without delay, having in readiness the requisite protecting material. Endive tied up may be sufficiently protected by an inverted flower pot, but the principal winter supply must be lifted forthwith. Cauliflowers, Lettuces, Radishes, or Parsley in frames or under hand-lights should have thorough exposure, employing the lights only in case of frost and during heavy rains, in the latter case tilting the lights. French Beans or Peas in frames should be matted up on cold nights and when frost prevails. Keep all autumn-sown or planted crops free of weeds, and in gathering Winter Spinach pick only the largest leaves, not cropping the plants too closely. If Chicory be wanted as an ingredient of salads roots may be placed in the Mushroom house. Pot a few roots of Tarragon and place them in a light airy position where forcing is or will shortly be commenced.

HARDY FRUIT GARDEN.

Autumn or early winter planting is preferable for all descriptions of deciduous trees, also Gooseberries, Currants, &c., therefore push forward the preparation of the ground for their reception. Good varieties of Pears for orchard planting are Lammas or Crawford, Caillot Rosat, Jargonelle, Windsor, Williams' Bon Chrétien, Hesse, Autumn Bergamot, Beurré de Capiaumont, Louise Bonne of Jersey, Aston Town, Marie Louise, and Swan's Egg. Stewing Pears.—Giglot, Black Worcester, and Catillac. Standard trees in orchards should be planted 24 feet apart.

Gooseberries, for affording quantity for tarts and market purposes.—Reds: Crown Bob, Farmer's Glory, Keens' Seedling, and Red Warrington. Yellow.—Broom Girl, Leader, Leveller, and Moreton Hero. White.—Antagonist, Queen of Trumps, Snowdrop, and Whitesmith. Green.—Green Overall, Hebburn Prolific. Random Green, and Heart of Oak. For bottling.—Rumbullion. For preserving.—Ironmonger, Red Champagne, Keens' Seedling, and Red Warrington. For dessert.—Red Champagne, Keens' Seedling, and Red Warrington. White.—Early White, White Champagne, and Crystal. Yellow.—Early Sulphur, Yellow Champagne, and Yellow Warrington. Green.—Green Walnut, Green Gascoigne, and Pitmaston Green Gage. Most of those are small and good, but the following dozen are large and of excellent flavour:—Red.—Companion, Speedwell, and Talfourd. Yellow.—Broom Girl, Leader, and Leveller. Green.—Heart of Oak, General Markham, Keepsake, and Thumper. White.—Lady Leicester, Snowdrop, and Mayor of Oldham. In rich soil Gooseberries should be planted in rows 6 feet apart and 5 feet in the rows; in soils not rich or heavily manured 5 feet, and 4 feet in the rows. Black and Red Currants should be planted 6 feet apart every way, a foot less for White Currants. Black Currants.—Black Naples and Lee's Prolific; Red.—Cherry, Red Dutch, and Ruby Castle; White Dutch.

Raspberries.—Plant in rows 6 feet apart and 5 feet in the rows in rich soil, and a foot less every way if the soil be only moderately fertile, Eastoft, Carter's Prolific, Prince of Wales, Red Antwerp, and Sweet Yellow Antwerp. Autumn kinds.—Yellow and Red October.

Strauberrries in Pots.—The earliest potted plants will now have completed their growth, and the earliest varieties will have the crowns fully developed and ripened. The pots should be plunged to the rim in ashes or cocoa refuse in cold frames, employing the lights only to ward off heavy rains, exposing the plants fully whenever the weather is favourable. Drying-off does the plants no good, but, on the contrary, causes the roots to become brown in appearance, whereas those plants kept moist have the roots white and fresh; therefore look over the plants carefully, and apply water whenever required. Those not required for early forcing should be plunged outdoors in a sheltered situation, and this before the pots become frozen, which is equally destructive of the roots as dryness.

FLOWER GARDEN.

The herbaceous or mixed border is a very suitable place in which to grow bulbous plants, as they are not disturbed there, and can ripen off the growth without being objectionable. Mixed borders, as they are mostly backed by shrubs, have shelter, which renders them very suitable for the different varieties of Lilliums,

the planting of which is very often deferred until spring; autumn is, however, very much the best time for planting them. Hyacinths, Narcissuses, Anemones, and the bulbous Irises are very beautiful, and should be planted extensively. From 2 to 3 inches deep will be sufficient for Anemones, but the Lillies should be planted 4 to 6 inches deep, and other bulbs in proportion to their size, placing a handful of sharp sand over the bulbs before covering them with soil. Alströmarias should be planted 6 inches deep. Ranunculuses of the Turban varieties and Pansies should be planted now, but choice varieties may be preserved in cold frames; prick off seedling Pansies in a sheltered border, or in pans or boxes. Pinks and Carnations must be planted out where they are to bloom, choice sorts being potted and wintered in a cold frame. In making up the beds for Pinks, Carnations, Picotees, and Pansies it is desirable to dig in a good dressing of soot and lime with a view of driving away wireworm. Gladioluses that have ripened their growth should be taken up and be gradually dried, as drying them too quickly and wintering them in a dry and warm atmosphere causes the corms to shrivel. Any strong-growing herbaceous plants that have outgrown the spaces allotted to them should, when the growth is ripened, be reduced to proper dimensions. Good cultivation is as essential for herbaceous plants as the pots of the garden. Any that have stood long in the same situation will be greatly benefited by an entire removal and replanting. This should be attended to early in the season, so that the plants may have time to become re-established before winter. The border should be trenched, working-in plenty of short manure and leaf soil before replanting.

PLANT HOUSES.

Stove.—Although shade is necessary in summer to prevent scorching there is no question of the importance of admitting all the light practicable when the sun is absent. More especially is this the case during the winter half of the year; for though there is very little growth made in winter as compared with summer, yet some plants will be more or less on the move during winter, hence the necessity of cleaning the glass inside and outside at this time of year so as to admit all the light practicable. This washing of the glass should be done more frequently than once a year, especially in smoky localities; indeed it should be done whenever the glass becomes clouded with dirt if the plants beneath are expected to be healthful. Summer-flowering plants will be going or gone, and the winter plants coming in, which being mostly of moderate growth associate well with still smaller-growing fine-coloured plants, such as Fittonias, Peperomias, Bertolonias, Tillandsias, the smaller-leaved Marantas, &c. Fittonias succeed admirably in either peat or loam, employed rather lumpy so as to admit of the water passing away freely. Cuttings root in a few days under a bellglass. *F. argyrea* and *F. Verschaffelti* are suitable for growing in small pots. If the crowns are divided of Peperomias and potted in sandy peat they will root and become established in a few weeks. *P. argentea* and *P. argyrea* are most desirable. Bertolonias grow well in peat and sand with a little leaf soil, cuttings striking freely in sand under a bellglass. *B. Van Houttei*, *B. splendens*, and *B. superbissima* are very beautiful. Marantas with several crowns may be divided, potted in small pots, and kept close, when they will soon become established. *M. albo-lineata*, *illustris*, *Lindeni*, *regalis*, *roseo-lineata*, *fasciata*, and *Mackoyana* are of moderate growth and suitable. Tillandsias *zebrina*, *tessellata*, and *musica* thrive in sandy peat in 6-inch pots. The preceding with many others—such as *Crotons* *Johannis* and *Weismanni*, *Curculigo recurvata variegata*, *Aralia elegantissima*, *Veitchii* and var. *gracillima*, *Pandanus Veitchii*, *Nidularia Innocenti* and *pictum* in small pots—make a grand display with the flowering plants that come in at the dull season. Gesneras of the *zebrina* section will soon be coming in. They must have plenty of water, but not too much, or the roots will perish, and if in small pots give them liquid manure occasionally, affording them also plenty of light. Perhaps no plants are so beautiful in late summer as Scarborough, Belladonna, and Guernsey Lillies in the greenhouse; and *Eucharis*, *Urceolinas*, and *Griffinias* in the stove, the latter being seldom seen, but their delicate white and blue striped flowers produced in succession for at least six weeks render them very desirable. Being evergreen they require to be kept moist at all seasons, watering copiously during growth; indeed the treatment given to *Eucharis* will suit them admirably. Keep a sharp look-out for mealy bug, scale, and at once destroy them; also thrips and aphids, subduing these by fumigation and sponging with soapy solutions. The temperature should be maintained at 65° to 60° at night, 5° less on frosty nights, 65° to 70° day by artificial means, admitting a little air at 75°, running up to 80° or 85°, closing at 75°. Syringing need only be practised in the morning and early in the afternoon; lightly if the weather be bright, but if dull damping the pathways will mostly be sufficient. Water only to prevent flagging, unless for any plants in growth, which supply according to their requirements.

TRADE CATALOGUES RECEIVED.

James Smith, Darley Dale, Matlock.—Wholesale List of Trees, Shrubs, and Conifers.

William Montgomery, Glen Nurseries, Cardross.—*Catalogue of Roses, Dahlias, Hollyhocks, &c.*

P. Sebire, Ussy, near Falaise (Calvados), France.—*Catalogue of Trees and Shrubs.*

J. B. A. Deleuil, Marseilles.—*List of Plants and Seeds.*

Frères Simon-Louis, à Plantières, Metz (Lorraine).—*Catalogue of Fruit and Ornamental Trees, Roses, &c.*

Souper et Notting, Luxembourg.—*General Catalogue of Roses.*

TO CORRESPONDENTS.

correspondences should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

ERRATA.—*Herefordshire Incumbent* writes in reference to his notes on Tea and Noisette Roses on page 308, that instead of the words "I have included in my list Souvenir de Paul Neyron," it should have run, "I have excluded from my list Souvenir de Madame Paul Neyron, as I consider Comtesse Riza du Parc a far superior Rose where they differ at all in depth of colour and substance." The date for the exhibition of the National Rose Society to be held at Manchester should be Saturday, July 12th, not 14th.

BOOKS (*Paddy Carey*).—If you require cultural instructions you will find them in the "Garden Manual," published at this office, post free 1s. 9d. The best moderately priced book on British and exotic Ferns is "Select Ferns and Lycopods," by B. S. Williams. It can be had from this office, post free, for 5s. 5d.

ROSE (*H. T. H.*).—The dark-coloured varieties being so numerous we cannot be certain of the name of your Rose, but we think it is Marie Baumann, one of the very best dark Roses in cultivation.

MOSS ON TOMBSTONE (*G. S.*).—Dust it well with hot lime, and in a fortnight or three weeks wash it clean with hot water and soft soap, using a brush for the letters.—J. G.

DAISIES ON LAWN (*W. L. C.*).—The Daisies were introduced with the turf, and they cannot be removed without expense being incurred. The only real remedy is to employ boys or women to dig them out with small forks. We have known large lawns cleared and kept clear by that practice. Where Daisies abound it is preferable to clean the ground and sow grass seeds than to form a lawn by laying turf.

DUMELOW'S SEEDLING APPLE (*James Bealey*).—The Apple mentioned in the catalogue you quote is the same as that referred to by "C. M." It is one of the most useful of late-keeping kitchen Apples. It is known in the south by the name of Wellington, and in the north as Normanton Wonder.

MILDEW ON FERNS (*M. E. R.*).—Mildew is generally caused by a close moist atmosphere, and especially when the roots of the plants are at the same time too dry. Your plants were probably affected with the parasite before they were placed in the hall. The remedy is dusting the fronds with flowers of sulphur, letting it remain on for a few days, then washing it off with a syringe.

GLOXINIAS IN GREENHOUSE (*Y.*).—The corns should be started in a heated frame about April, such as is employed for growing Cucumbers. By the time the Gloxinias have made some growth your greenhouse will be sufficiently warm, placing the plants in the warmest position, for the growth being continued and flowers produced. If you have no frame you had better defer starting the corns into growth until early in May; if started earlier the house will be too cold for them. Starting consists in watering the soil in which the corns are potted with tepid water. So long as the soil is kept dry the corns will remain dormant.

ROSES ON SOUTH BORDER (*Idem*).—The leaves falling from the trees which form the boundary of the border would not injure the Roses and other flowers nearly so much as would the roots of the trees by impoverishing the soil of the border. Such a border will require much water in summer, and also mulching with manure, to induce the plants to thrive.

TRANSPLANTING GOOSEBERRY BUSHES (*Notice*).—Enrich the soil in which you intend planting with plenty of manure. Lift the bushes carefully forthwith, retaining if possible slight balls of earth about the roots, retaining as many roots as possible, and in replanting take especial care to press the soil firmly but gently about them. The bushes should be 5 feet apart.

BED FOR BOG PLANTS (*Somerset*).—Slightly puddle the sides and bottom of the bed before putting in the bog earth, and let there be a constant flow of water through it all the year round. If you can clothe your bog earth with living tufts of sphagnum do so, and then plant among it your plants. Some of the best are Asphodels, Drosera rotundifolia, Crinum capense, the water Amaryllis, Gunnera scabra, Saxifraga aquatica, Grass of Parnassus, Loosestrife, Mimulus, Myosotides, Moneywort, and Menyanthes trifoliata. It will require no shade. A gravel path near or around it is advisable to enable you to visit it in damp weather.

UTILISING A VINERY IN WINTER (*E. G. J.*).—When you turn your Vines outside cover them with fern or straw to keep off frost, and take especial care to reinstate them in the house before the buds commence swelling in spring. Kidney Beans would answer very well in such a house during the winter months, and so would Cucumbers if you can afford them a bottom heat of 75°, and a top heat of 70° at night, rising 5° to 10° in the day. Do not try Mushrooms in so high a temperature, but you could force some Strawberries in pots, and also have some Rhubarb, Asparagus, and Sea-kale, which latter can be bleached very well by inverting flower pots over it and stopping the holes to exclude light. Bulbs, Lily of the Valley, Roses, and flowering shrubs might also be introduced if there is any available space.

PROPAGATING ARBUTUS (*G. C.*).—You can propagate the shrub by layering, which should be done forthwith, giving the shoots a twist and pegging them firmly in the soil.

CALCEOLARIAS DAMPING (*T. M.*).—We think with careful watering and judicious ventilation that both Calceolarias and Cinerarias will do well in your span-roofed house without any fire heat, at any rate at present, and much better than they would do in an airy verandah. Dry air, and especi-

ally when fire heat is employed, is very pernicious to those plants. We have frequently wintered the former successfully in cold frames, covering the glass with mats and straw, and lining the sides of the frames to exclude frost. Provided the temperature of your house does not fall below 35° your plants will be safe. We do not know the price of the stove you name, it varies according to size. Write to the maker, whose address you will have seen in our advertising columns.

INSECT ON GLOXINIA CORNS (*J. C. Ambleside*).—The larvæ forwarded are those of that troublesome weevil, *Otiorynchus sulcatus*. From their size it appears they have grown more rapidly in the autumn than is usual, but they would continue to feed during the winter, becoming pupæ in the spring. It is one of the species difficult to deal with, except by keeping a sharp look-out for the parent beetles in summer, when they will be found frequenting various succulent plants. A solution of ammonia has been applied by some of such strength as not to injure the plants, but usually the mischief is not discovered until the plants are beyond preservation.—J. R. S. C.

SCARLET GERANIUMS FOR WALL (*C. J. B.*).—For a low wall *Vestrius* is one of the most floriferous, and when planted-out in good soil grows freely. For covering a high wall *Warrior* is good. Both are bright in colour and keep as well when cut as any other varieties.

TREES FOR ORCHARD HOUSE (*H. W.*).—With a pathway up the centre 2 feet 6 inches wide, you will have beds or borders on both sides of it a little over 6 feet wide. Apricots succeed best in the pyramid or bush form. Peaches and Nectarines succeed either in the bush, pyramid, or standard form. Bushes and pyramids for such a house as that shown in your sketch would be most suitable, as you will not have height for standard trees. Of Apricots: Oullins Early, New Large Early, Peach, and Moor Park. Peaches: Hale's Early, Early Grosse Mignonne, Grosse Mignonne. Royal George, Violette Hâtive, Noblesse, and Barrington. Nectarines: Lord Napier, Stanwick Elrige, Rivers's Orange, and Balcowan. You may have a Vine trained over the pathway—Black Hamburgh or Foster's Seedling.

BLIGHT ON APPLE TREES (*Subscriber*).—From your description we think the trees are infested with American blight, which may be destroyed by dressing the parts affected with paraffin, diluted with about four times the quantity of water, keeping it well stirred; apply it with a brush, keeping it from the roots. If any insects appear next year during growth repeat the application, not wetting the foliage more than can be helped.

SHRUBS AND CLIMBERS FOR SOUTHWARK (*Flora*).—Of shrubs take Rhododendrons, Japanese Privet, Holly, Lilacs, Box, Escallonia macrantha, Double Gorse, and Portuguese Laurel. Of climbers take such *Honeysuckles* as *flexuosa* and *brachypoda*; try also the lovely *Ampelopsis Veitchii*, and we think *Berberidopsis* would answer; also *Cratægus Pyracantha*, which white and yellow-flowered *Jasmines*. *Escallonia macrantha* forms an equally good trailer and climber, and you could have no better substitute for Ivy in your Devon garden. The plants to which you refer are probably *Helianthus*, of which there are many perennial species.

CROWN IMPERIALS (*Old Subscriber*).—Leave the Crown Imperials undisturbed, enrich the soil about them, and in due course as they gain strength they will flower.

GLOBE ARTICHOKE (*Idem*).—The produce of Globe Artichokes is pretty much in proportion to the number of crowns to each stool and their strength. Plant in spring in tolerably rich deep soil, dig-in about them an annual dressing of manure, and you will find the number of "Globes" increasing yearly. We do not know where the "Sussex Anchor Hook" can be obtained.

TRANSPLANTING ONIONS (*G. N. R.*).—It depends entirely on the season as to whether your Tripoli Onions would be benefited by being transplanted before February. Probably they would not; but as the Onions are better able to withstand the winter by being thinned we should, if they are too thick, remove a portion of them at once and transplant them, leaving those in the seed bed about 2 inches apart.

CHRYSANTHEMUMS (*B. C.*).—The best time for propagating Chrysanthemums, both for making specimen plants and for producing large exhibition flowers, is in November, almost directly after the plants have ceased blooming. Select healthy and robust cuttings or suckers with a portion of root attached, pot them singly in 60-sized pots, and soon afterwards take out the extreme point, and encourage side shoots for the making of specimens. They should not be subjected to any coddling process, but should be placed in a cold frame, and have air always, except in unpropitious weather. Repot them as required, and stop the laterals when about 6 inches long until the second week of June. The number of shoots required to be left on a plant must be regulated according to the strength of the plant and the variety. We have seen well-grown plants of some varieties carry from eighty to a hundred fair blooms. Plants grown for producing exhibition blooms only are never stopped, but are allowed to grow up with one stem; later on in the season they branch out, and are generally allowed from three to six shoots, with a bloom on each, and when massed together produce a very striking effect.

ROMAN HYACINTHS (*Idem*).—To obtain a succession of these pretty miniature flowers all that are required for late use must be kept in a cold frame until wanted, the others being placed in warmth to bring them into bloom earlier. A temperature of 55° at night is sufficient. Roman Hyacinths are very valuable on account of their natural habit of flowering early.

CABBAGE PLANTS CLUBBING (*S. S. Whetstone*).—The "club" on your plants contains a small white maggot, the larva of a little insect called the weevil. If on the gall and its tenant being removed the plant is again placed in the field, where it is to remain unless it is again attacked, the wound usually heals, and the growth is little retarded. On the other hand, if the gall is left undisturbed the maggot continues to feed upon the albumen or young woody part of the stem until the period arrives for its passing into the other insect form, previously to which it gnaws its way out through the exterior bark. The disease is then almost beyond the power of remedies; it may, however, be in a great measure avoided by frequent transplantings, for this enables the workman to remove the excrescences upon their first appearance and renders the plants altogether more robust and ligneous, the plant in its tender sappy stage of growth being most open to the insect's attacks. Preventives recommended are heavy dressings of soot to the land, or applications of gas lime of from 8 to 10 bushels per acre, turned in with the spade or the last ploughing.

CLIMBER FOR TRELLIS (*R. A. M. J.*).—*Ampelopsis Veitchii* would do well in a box, and would cover a trellis facing north well during the summer; but for forming an evergreen screen nothing surpasses Ivy in such a

position. As flowering plants we have Clematis Jackmanii and Lonicera hexosa, growing and flowering well on a wall having a north aspect.

CELERY FLY (*Rus in Urbe*).—The grubs are the larvæ of the Celery Fly (*Tephritis onopordinis*), which have been very destructive this autumn, owing, probably, to the prolonged term of dry weather during September and October. As soon as we perceived the first few blisters we picked them off, and at once dusted the plants with soot; by repeating the application slightly about once a week we prevented the crop receiving serious injury. You had better remove the blistered parts and leave the Celery where it is, protecting it with straw and litter when frosts occur, as it will be very liable to be injured owing to the comparative absence of leaves. If you dig up the crop and lay it in a cellar the stems are almost certain to shrivel and to lose their crispness; at any rate, we do not advise you to dig it up before you find it actually decaying in the ground. If you grew the crop for sale we should say the sooner it was dug and sold the better.

REVE D'OR ROSE NOT FLOWERING (*Idem*).—We are not surprised that your Rose which was planted last year and cut down nearly to the ground this spring has not flowered; but you have no reason to be disappointed with the progress the plant has made. You treated it correctly, and it has made excellent growth, and next year will almost certainly afford you fine blooms. If the shoots are crowded thin them out at once, so as to expose those remaining to light and air. Do not shorten the principal shoots, except to keep them within the space required, and then, the wood being matured, they may be expected to produce flowers freely next summer.

OSAGE ORANGE CULTURE (*South American*).—The following extract from the *Prairie Farmer* will perhaps afford you the required information:—The plants are always raised from seed. Sow the seed in drills, having first soaked them in warm water for forty-eight hours, and place them thinly between damp cloths, where they may remain warm and moist, until indications of sprouting are seen. The time for sowing is immediately after corn-planting time, or after the soil becomes warm. The preparation of the seed by soaking and sprouting should commence two weeks earlier. The rows in which the seeds are to be planted should be 3 feet apart, and the seeds be sown about an inch apart in the row, and keep the plants entirely free from weeds. In the autumn cut the tops about 4 inches above the surface, and the roots about 8 inches below ground. Dig, and after sorting according to size, heel in the earth in a dry place, covering the tops with litter and earth to prevent freezing. In the spring they are to be planted in a properly prepared hedgerow, where they are to remain. Some growers tie loosely in small bundles of say fifty plants each, and setting upon their roots cover all with earth, tops and bottom. Heeling-in is preferable. The usual distance apart to plant in the hedgerow is about 10 to 12 inches. Pack the earth firmly about the roots, and deep enough, so when the earth settles the yellow portion will be entirely below ground, or about 2 inches deeper than they originally stood.

PRUNING VINES (*G. H.*).—If most of the leaves have fallen off the Vines and the wood is ripe you may prune them at once, so as to afford them all the rest possible before starting them.

PLANTING ANEMONES (*Idem*).—The Anemone requires a pure loamy soil well mixed with sand, such as sometimes is found on the sides of rivers naturally mixed with the sand. Choose a situation that is open, but sheltered from violent winds or strong twisting currents of air; then dig out the soil a foot or more, according as the situation is high or low; if high it may be dug out 3 or 4 inches deeper, but if low and wet a foot will be sufficient. Mix the soil with sand if it requires it, and fill in the bed again to within 6 inches of the level of the surface; then level it, and lay on it a thin covering of thoroughly decomposed hotbed manure or cow dung; the latter is to be preferred. Mix this well with the soil below. Upon this mixed enriched soil place as much of the pure sandy loam as will raise the bed an inch or two above the walk. No dung must be among this top stratum of soil, because dung causes the peculiar disease called mould to attack the bulbs that come in contact with it. The best season for planting is from about the middle of October to the first week in November; the bulbs then form roots before severe frosts set in. Should the planting be unavoidably delayed the bed must then be covered with fern or straw. Choose a time when the soil is moderately dry and the day fine. Draw drills across the bed 2 inches deep and 5 or 6 inches apart, and plant the tubers 5 inches apart in the rows. For choice varieties a thin layer of sand scattered under and around each tuber will be useful. As soon as the bed is planted cover the tubers with sandy loam from a basket or wheelbarrow. Take care that the tubers are placed the right side up by observing the side that has the old small fibres on it. That side place next to the bottom of the drill. When all are planted and covered up the right depth (2 inches) then level the surface with a garden rake.

NAMES OF FRUITS (*Connaught Subscriber*).—The Grapes are—1, Black Alicante; 2, Black Prince; and the Pear is Beurré d'Aremberg. (*G. W. Ayshire*).—1 and 3, Beurré Diel; 2, Beurré d'Aremberg; 4, Joséphine de Malines; 5, not known; 6, Gansel's Bergamot. (*F. Taylor*).—1, Warner's King; 2, Herefordshire Pearmain; 3, Tower of Glamis; 4, Winter Hawthornden; 5, Golden Nonpareil; 6, Braddick's Nonpareil. (*S. Skinner*).—Beurré Clairgeau.

NAMES OF PLANTS (*C. T. H.*).—1, Phymatodes glauca; 2, Onychium japonicum; 3, Athyrium filix-femina Frisellia. The numbers were off the others, but the large bright green frond we recognise as Scolopendrium vulgare multifidum. (*G. R.*).—This not being in flower we are unable to identify it. (*G. M.*).—Gordonia Lisanthos; increase by American seeds or by layers. (*W. W.*).—Scorzonera.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

STRAW AND ITS USAGE.

STRAW is often alluded to as a substance of but slight importance; but upon the home farm, where pasture and park lands usually predominate over the arable and straw-producing soils, it is a matter of great consequence, and in many districts of the kingdom it is become comparatively a very costly article. The

question is often discussed of straw having doubled in value within the last twenty-five years. The cause of this appears to us to be various. First, we find that the straw-producing area is greatly reduced; the increase of population and the extension of towns, factories, &c., have pushed the market gardens, &c., further into the country districts, and have encroached upon the land used for cereal produce. Again, the increase of land laid into pasture has been great during the past twenty years, and not only has the producing area been diminished, but an enormously increased demand for straw has sprung up in connection with trade and commerce, increased quantities are used for packing purposes, and tradesmen of nearly every grade now keep an advertising van for delivery of goods, and consequently a horse requiring straw for litter. These requirements are, however, quite separate from agricultural consumption and the ordinary usage of this article upon the home farm, and we may confidently look in the future to making it one of the most profitable articles for sale in the corn-producing districts; therefore upon the home farm we recommend that straw crops should be grown (where the proportion of ploughing land is small), as a preparatory crop for roots before mangold, Swedes, or turnips, and without prejudice to these crops. For instance, we know now upon a home farm of capital crops of mangolds drilled after a crop of rye, sown and cut for straw only, just after coming into ear, the straw being worth at least from £5 to £6 per acre, the quantity of straw being a question of manure only, because the preparation is much surer for a root crop than a long fallow. Upon many farms in different parts of the kingdom large quantities of the best straw are used for thatching farm buildings and cottages, which is a great mistake. We ought to look to our mineral productions to afford the means of covering farm buildings, &c., such as flagstone, slate, or tiles, instead of using the perishable produce of our arable soils for the purpose. It is notorious that the best and most valuable straw is generally used for thatching, as being best adapted and the most durable; it is, however, in some districts very costly. We were lately engaged in a question of repairs, and found that straw fit for thatching could only be obtained by paying £6 per ton for the article.

We will now refer to the production of straw upon the home farm. If it is to be used for thatching the corn should stand to be fully ripe, the straw will then become hard and glazed with silica; but in case it is required for use as a feeding material for cattle, it should be cut before the grain is ripe. This will be in favour of the grain also, because there is less loss by bretting or injury through bad weather. We will give the composition of straw as it is usually found on the farm, and cut at the usual time

	Wheat Straw.	Barley Straw.	Oat Straw.
Water	14.23	14.30	12.06
Flesh-forming matter	1.79	1.68	1.63
Respiratory and fatty matter	31.06	39.98	37.86
Woody fibre	45.45	39.80	43.80
Mineral matters (ash)	7.47	4.24	4.85
	100.00	100.00	100.00

In comparing these analyses with the feeding value of good meadow and field hay we find on the average gives sixty-three parts feeding value, whilst straw gives on the average of the three kinds, wheat, barley, and oats, forty parts feeding value. This is certainly a more favourable view of the value of straw than the ordinary use of it would lead us to suppose. In certain cases, however, straw is of still higher value, for instance in the case of cutting green for straw only; it would then have nearly the value of hay if ricked in a green state, like the value of wild oat hay so much in use in the prairie districts of America. The crop when cut green may be succeeded by mangolds or Swedish turnips; but a favourite plan of our own, pursued for many years, was to grow either winter oats or the white Canadian variety, both of which ripen a fortnight before the wheat crop, and by ploughing immediately after the oats were cut we usually secured the best common turnips. The oats, however, were cut very green for the purpose of feeding cattle with the straw, which

we always found better than hay for that purpose, and upon which subject Mr. Blundell of Southampton read a paper before the Royal Agricultural Society in 1862, giving his experience of and experiments upon straw feeding of thirty-seven head of bullocks during three years, which left a clear profit of 3s. 3d. per head per week, whereas the use of hay would have left only 3d. per week profit. But there is another view of this matter, because when cattle are fed upon straw they enjoy continuous good health, whereas hay often clogs and disorders the stomach; but we have never found them refuse their food when straw was the only fodder used. Still we find the case is now somewhat altered, owing to the relative value of straw and hay, for in many districts there is little or no difference in the value of the two articles, yet the advantage of straw prevails on account of the uniformity of the health of the fattening cattle. We find horses will do much better with straw chaff and corn mixed with pulped roots, either mangolds or carrots, and some farmers whom we know are now beginning to follow our plan and make it a rule to feed in this manner, either by displacing all the oats or a part of them according to the labour required of the horses, and in this way they may be kept in fine condition upon the home farm. The advantage in this method of horse-feeding is that they are induced to eat straw which they would refuse unless mixed with roots, and these roots consumed by displacing a portion of the corn usually given is in itself a profitable transaction. The feeding value of an acre of roots is equivalent to three acres of corn produce, because 3 cwt. of carrots or mangolds are equal in feeding value to one bushel of oats, taking for comparison a crop of oats at six quarters per acre, and a crop of carrots or mangolds at 21 tons per acre. Straw must also be considered almost a necessity in affording cleanliness and health to our animals, and, also in forming the basis of manure on the home farm. It is however, to be greatly economised in the stable or cattle pens, where the floor of the stalls is absorbent, hence the earth or burnt-lime bottom to the stalls requires far less straw to keep the animals clean and healthy than the ordinary brick or stone floor.

Various substitutes for straw may be found upon the home farm; ferns, rough grass in the plantations, rushes and patches of seeded grass in the pastures, may all be used to economise straw in littering the pens for cows, pigs, &c. Under the heading of "Straw" Dr. Voelcker gives the analysis of peas and beans, but we call it haulm; and although the analysis shows more feeding value in pea and bean haulm than straw of the cereals, yet bean haulm is a coarse and rough article, and cannot be brought into general use for feeding without being cut into chaff and mixed with other articles as cooked food; we therefore only use it upon the home farm for the bottom of corn and hay ricks, or place it at the bottom of cattle boxes as an absorbent for manure. Pea haulm when well secured we always set apart as good feeding material, especially as chaff in admixture with other feeding stuffs. Ricking and preservation of straw at the time of threshing is very important. It should be ricked and thatched with as much care and caution as hay, so that when required for use it may be cut out and carried to the homestead fresh and sweet from the rick. In the case of barley or oat straw with clover in it, it comes out better than when it is oftentimes stored in a barn mow, in which case it is often tainted by rats and mice. Refuse straw intended for litter may also be kept dry, but its abuse must be guarded against; for we often see ten or more tons of straw strewn over an open yard with only a few pigs and dairy cows to tread it down for manure, but upon farms where the tenant has liberty to sell straw this practice will soon die out. Again, upon some of the chalk hill farms there is the muckle fold, in which case the straw is spread over the land and the sheep tread it down in a shifting fold at night. This is the old-fashioned way of using straw when the tenant was compelled to consume or use it. This, however, will not now hold as a practice compared with straw sold and the money expended in artificial or town manures. No farm manager need now hesitate as to the outlay for manures with straw at the present high value, for not only will it pay to make the outlay on the home farm for the purpose of growing a full cereal crop, but beyond the ordinary cultivation of the land and its produce the value of the extra straw grown will pay for the manure irrespective of the increased quantity of grain, because we cannot generally obtain the highest produce of corn without we obtain a full crop of straw, subject, of course, to the yield consequent upon the variation of the seasons.

WORK ON THE HOME FARM.

Horse Labour is still chiefly required in preparing the land and drilling the wheat. It is usual to plough and press the clover lea ground before ploughing and sowing the fallow preparations upon all dry soils; yet such is the state of the weather, and it encourages the slug so much, that it is advisable to delay seeding the clover lea until the last week in November or first week in December. The slugs having been so numerous in the clovers during the whole summer they will be sure to commit serious ravages upon the young wheat plants as soon as they show above ground, unless the wheat is sown sufficiently late to have when it vegetates a chance of frost. We therefore advise the seeding of the

fallow ground first, whether it is after turnips fed off, or after peas or beans, because the slug is not so likely to injure the wheat where the land has been lately tilled and fallowed. We must again call to notice the advantage of using Down's Farmer's Friend as the best preparation for seed wheat, to prevent the growth of smut in the crop next harvest. The quantity required of seed wheat per acre is still a vexed question, and will probably continue so, as the soil and preparation as well as climate and the period of sowing must all influence the question as to quantity of seed. We therefore recommend a quantity, varying with the season, from two bushels to three bushels per acre. The early sowing of wheat for the purpose of saving seed is continually being agitated by Mr. Mechi and others. As, however, early sowing and thin seeding go hand in hand, we beg to observe that upon many farms the early sowing of wheat would cause much inconvenience and derangement of the usual mode of culture. For instance, if all the wheat were sown early, or planted in the month of September, how could any autumn cultivation for root crops the next season be effected? How could the various crops preparatory for wheat be removed, such as potatoes, turnips, mangolds, &c., which are in process of digging, storing, or feeding-off by sheep, &c., during the months of October and November? What is the advantage of saving a bushel of seed per acre, or even more than a bushel, as compared with the advantage of taking up in good seasons crops of potatoes, carrots, mangolds, &c., which are often more valuable than the wheat crop itself, although they are preparatory? and what is the saving of seed compared with the requirements of large flocks of sheep, and their benefit to the land as a preparation for the wheat crop? The advocates for thin seeding must not forget that they run the risk of blight in their crops, for no corn is so liable to blight as those which are called upon to tiller and branch out, and make damaging efforts to fill vacancies in the spring of the year.

There is no period of the year when the odd horse or horses will be more fully employed than now. In fact the work is now so pressing that it is difficult to say which demands the first attention. On the autumn fallows there may be still some couch and weeds to cart away to heap, there to rot for future use. Hedge trimmings may still be required to be carted away, particularly in fields where roots were growing, as the carts could not enter until the roots, such as mangolds, &c., were cleared away.

Hand Labour.—Manual labour will now be employed in spreading dung upon land intended for wheat, and also where there are water meadows the drowner, or person entrusted with the irrigation and its necessary labour, must now have the trenches scoured. The right principle in irrigation is not only to lead the water on to the land, so that it may flow with regularity over the whole surface, but also to give it the freest outlet after having served the purposes of flooding. Store cattle will now require some change from the pastures which are getting stale, and they may now be accommodated in yards and sheds at night, and there receive a moderate allowance of decorticated cotton cake and straw; and if it is required to advance them quickly, common turnips cut and placed in troughs in addition, and by no means forgetting a lump of rock salt accessible to all. The dairy cows, too, demand our attention; for after the middle of October the grass, if not short in quantity, becomes poor in feeding value; we therefore give them cabbages upon the pastures, and we find them do well without decreasing their milk. They must, however, soon be brought to the stalls at night time, and receive in addition to cabbages some sweet oat straw, as they will not pay for hay, especially those which are nearly or quite out of profit. The woodlands upon the home farm must now be looked to, any portion of the underwood becoming fit for sale or cutting this winter must be disposed of accordingly; and it is well that only some portion should be cut every year, particularly where it is desired to rear and retain a few pheasants, and also for furnishing with regularity spar and hurdle wood, &c., for use on the home farm.

RABBITS AND THEIR CONSTITUTIONAL DISORDERS.

THERE are many hereditary weaknesses which grow on Rabbits chiefly from neglect and unnatural treatment, and which not unfrequently descend to the next generation. It is as well to remember that one male will often spoil twenty or fifty litters and a hundred or two of young ones, so that it is very important to see that everything is right before introducing a fresh sire. When contemplating this fact it should also be borne in mind that so many of these complaints are doubled or trebled by inbreeding, because both parents are likely to be affected in the same way; therefore, strange Rabbits should be selected when possible.

Paralysis is a complaint that is often transmitted in the blood. In the first place it is most likely caused by an excess of damp in the hutch. If the wood or hutch is porous, so that the wet can sink in, a nasty effluvia rises and keeps the air polluted. If this is continued it causes several complaints, and ultimately paralysis. As soon as the disease takes any hold upon a Rabbit the animal

shows symptoms of great debility and even impotence, especially in the hinder quarters, which seem to be quite useless and can only be dragged about. Sometimes the disease extends towards the head. In this case it is more serious, and generally results in death. As the appetite is speedily affected great care must be taken to tempt the Rabbits by frequent changes of food, and a little extra green food as an aperient will sometimes do good. It is seldom that a Rabbit with this disease ever thoroughly recovers; indeed, we hardly think it advisable to try to cure any but show Rabbits, as they should never be allowed to breed after having been once thoroughly diseased. The complaint is very apt to appear in the next litter, and will be easily brought out by damp and badly-smelling hutches.

Rabbits have sometimes sluggish and diseased livers. The complaint is very bad, as it tends to destroy all the benefit derived from good food. It is generally classed among preventive diseases. This we hardly see. If a Rabbit has a good liver constitutionally it will take a good deal to affect it very much any way, but if it has a weak one, inherited from its parents, a very little carelessness will cause disease. The disease most common in kind seems to consist of a quantity of little insects, which stick to the liver. If the liver is healthy and strong they will not be very injurious, but if the liver is at all weak they soon get a hold upon it. A cure is almost impossible, except when the remedies are tried very early in the disease. Plenty of light and air are the very best remedies that can be prescribed, with plenty of good substantial food. If show Rabbits they may be preserved alive for some time by these means, but a cure is doubtful. As the complaint is liable to be transmitted Rabbits affected with it should never be allowed to breed, as if they do their litters are pretty sure to be tainted.

A bad affected blood thoroughly impregnated in the system is another unpleasant disease to which Rabbits are constitutionally liable. It is caused in the first instance by starvation of the blood, and by giving only food that does not produce strength. Hence it is very necessary to keep the Rabbits well attended to, as the complaint is exceedingly debilitating and destroys the Rabbit's value for breeding. It makes itself apparent in many ways. The eye loses its vigour and becomes pallid and humid in appearance. If the Rabbit gets a scratch the place immediately festers and discharges profusely, boils rise on the back and sides, and the hair consequently comes off. Sometimes these are so small as to be more like pimples, and they all discharge a little. If squeezed a good deal of blood and matter comes out, and seems to afford momentary relief. It is well to wash this off and not leave it on the skin, as it might cause fresh eruptions. The less food that is given the worse the blood seems to get. The eruptions should not be confounded with small boils, which are more the result of overfeeding. A little cooling food, chiefly herbs, will be found to prevent this, and quickly to cure it. Gatherings should be broken and washed out. Sore hocks are sometimes caused by the want of stamp in the blood. In this case the hocks swell very much, and if the hutch is rough or dirty the disease is increased. The remedy that is best is the addition of substantial food, with plenty of purgative food at intervals. Meal mashes mixed with potatoes are very strengthening, and may be recommended for this complaint. This disease transmits itself in breeding, and therefore affected animals should be kept separate till their death. Often the remedies may keep show Rabbits well for a short time, but the discharges are very weakening, and it is not often that a Rabbit lives very long after being seized with the complaint.

Another affection is that of the kidneys, which affects Rabbits that are kept in damp hutches. If there is no outlet for the wet to pass away, and it is allowed to accumulate, the effect upon the kidneys is very palpable. The urine that is passed is often red. The Rabbits when affected show signs of debility and ill health. Warmth and judicious diet will be found most likely to produce a cure; plenty of green food of a milky nature should be given, as well as ample supplies of corn and meal.

As Rabbits closely connected often have the same disease it is most important to avoid in-breeding.—G.F.T.A.

ARRIVAL OF NORTHERN BIRDS.

MOST of the northern birds due in the middle of October have arrived. All the summer migrants have gone except a few house swallows. The London bird-catchers have lately had large takes of the brown linnet, common redpoll, greenfinches, yellowhammers, siskins, goldfinches, and mountain or tree sparrows. The flights of birds arriving from the north are as follows:—Hawfinches, goldfinches, chaffinches, siskins, mountain sparrows, twites, brambling finches, bullfinches, brown linnets, woodlarks, redwings, blackbirds, thrushes, and stony redpolls. The stony redpoll has skipped these coasts for the last two or three years, but many have been taken during the past week. Ring-ousels have been very scarce this autumn. The northern larks, fieldfares, and snow buntings have not yet been seen, as it is still early in the season for them.

The various kinds of titmouse, such as the large-tit or ox-eye,

blue-tit, cole-tit, and marsh-tit, are very plentiful about the suburbs of London. Another class of birds common to this country is also plentiful, and may be seen by any ordinary observer about the borders of woodlands and copses near London. These are the nuthatch, little tree-creeper, common wren, the golden-crested wren, and long-tailed titmouse. All these birds frequent the same localities in the company of each other. They are especially fond of parts of the country where firs and yews abound. The last five birds do not seem to increase in numbers, and are never more plentiful one year than another; for the last thirty years there has been no noticeable increase in them. This is all the more remarkable, as these birds are very seldom trapped in nets, caught with birdlime, or killed by gunners. They are useless except as specimens for the cabinet.

The hooded or Royston crow has been noticed on the marshes below Gravesend. These birds are generally observed first at Flamborough Head, in Yorkshire. At Flamborough Head during the last few days many of our autumnal visitors have been noticed—namely, scores of blackbirds, thrushes, crested wrens, and owls. These owls were probably bred in the rocks in the vicinity of Flamborough. Flamborough Head is the great arrival station of many autumnal migratory birds proceeding south from Norway, Sweden, &c.

Woodcocks are also beginning to arrive at Flamborough. These birds subsist during the summer months on the larvæ of the mosquitoes and other insects that breed in the extensive marshes of Norway and Sweden. The moonlight nights and easterly winds during the last few days have been especially favourable for the arrival of birds from the north. At Flamborough the blue rock doves are also very plentiful. These birds are found nearly all the world over; they will not breed in captivity. Visitors to Rosherville, near London, may have noticed many pairs of these birds breeding about the cliffs in the gardens. At the present time the blue rocks are feeding on the stubbles, and their favourite food is the charlock seed. They do much good by eating up the seeds of this weed. These blue rocks must not be confounded with the blue rocks used for pigeon-shooting from the trap. Linnets and greenfinches also eat large quantities of charlock seed. This fact accounts for large numbers of these birds being seen on the stubble lands.

During the late foggy evenings numbers of the small common mouse-eared bat have been seen about the streets in the north part of London. It is difficult to know on what these bats are feeding, as there is very little insect food to be had, such as moths, &c.—(*Daily News*.)

VARIETIES.

It may be interesting to some of our bee-keeping readers to learn that a Hertfordshire Bee-keepers' Association is in process of formation. It was at first intended by the promoters to form an association for West Herts only, and during the past summer several meetings have been held with this object, whilst displays of bee-driving, &c., have been given at Harpenden, Rickmansworth, Latimer, and Great Berkhamstead at the shows of their horticultural and cottage garden societies. Prizes have also been offered to cottagers and others for the best supers of honey in wood, glass, or straw. By the advice, however, of the Bishop of the diocese the scope of the Association has been enlarged, and its operations will be extended to the whole of Hertfordshire instead of being confined to its western division only. The Earl of Verulam, the Lord Lieutenant of the county, has consented to be President of the Association; and the Bishop of St. Albans, the Earl of Clarendon, Earl Brownlow, Lord Ebury, and Lord Chesham have promised to be Vice-Presidents. Other names will shortly be added to the list, and a new vigorous Association will take its place amongst the Lincolnshire, Devon and Exeter, Dorsetshire, and other county associations already in existence.

—The official list of awards made to British exhibitors at the Paris Exhibition, including those for all kinds of live stock, has appeared very clearly and elaborately got up. H.R.H. the President of the British Commission has sent a copy of it to every juror not present to receive it at the distribution of prizes. A note is appended to the list of jurors to the effect that their services were entirely gratuitous.

—At the Tunbridge Wells Poultry Show a Carrier Pigeon belonging to Mr. Stephens was claimed for £100. We believe the purchaser was Mr. Hedley. We think that at least one bird of the same variety was last year sold for the same price.

—A MEETING was held on the 23rd inst. at the County and Borough Halls, Guildford, to inaugurate the newly-formed Surrey Columbarian Society. The President of the Society, Mr. O. E. Cresswell, took the chair; the Vice-president, the Rev. G. S. Davies of Charterhouse, the Hon. Secs. Messrs. Walker and Allen, and many local fanciers, were present. The Society will hold its first show at Guildford in December.

—We have before us a large number of schedules of shows to be held in the month of November. Among them, on November 6th and 7th, the Cambridge Show of Poultry, Pigeons,

and Cage Birds. We remember a very good show there about five years ago, and hope that this revived one may be well patronised. On the 22nd and 23rd of the month the Kilmarnock Show will take place. The classification is one of the most extended and complete we have ever seen save at the greatest national shows. There are 42 classes for Poultry, 35 for Pigeons, and 19 for Cage Birds, 9 for Rabbits, and 2 for Cats. The entries close on November 9th. The Norwich Show is fixed for the 21st, 22nd, and 23rd. The classification is, as in former years, very good. There are special cups and prizes for members of the Society. On the 27th and 28th a West Kent Show is advertised to be held at Bexley Heath; and on the same days the Show of the Rutland Agricultural Society at Oakham. This has long been a well-managed and popular institution. We regret to see that the pairs of hens so long seen there are no longer to appear, but single birds alone. Another poultry show will be held at Poole in January. It will be under the patronage and rules of the Poultry Club.

— WE are continually hearing evidence of the spread of the poultry and Pigeon fancy both in the Old and New Worlds. Some Pouters from the celebrated lofts of Mr. and Mrs. Holmes of Bath were lately exported to Austria, and last week some of Mr. Cresswell's Turbitts started from their temporary abode near Bagshot for Boston, U.S. America.

— DESERVING of special notice at the Clonmel Agricultural Show were specimens exhibited by Robert Cooke, Esq., of three cuttings of Italian rye grass, with the seed saved from the second and third; that saved from the first is generally worse than useless, as containing the seeds of weeds, &c.; that from the third crop was very inferior to the splendid sample saved from the second cutting. Many farmers were interested in seeing this marked distinction. The exhibition of other farm produce was very superior.

— THE largest farm in the world is probably that which has just been purchased by a New York Joint Stock Company in Northern New Mexico; it covers 250,000 acres, and will be used for cattle and sheep raising. A good start has already been made with five thousand improved American cattle and fifteen thousand Merino sheep.

— THE Duke of Sutherland has presented a milch cow, and allowed sufficient pasture land for its keeping, to every small tradesman on his Trentham estates.

— WE are requested to state that the Ipswich Poultry Show will take place early in January next, instead of as advertised, due notice of which will be given.

— IN the returns for the year 1877 the poultry in Ireland were enumerated in four classes. There are 751,809 turkeys, 2,240,399 geese, 2,653,070 ducks, and 7,920,805 ordinary fowl, making a total of 13,566,083, or 53,417 fewer than the very large number in the preceding year's return. It will be observed that there are three times as many geese as turkeys, but the proportion varies greatly in different parts. In Leinster and Ulster the turkeys are not very much less than half as many as the geese; in Munster they are not near a third the number of the geese; and in Connaught they are less than a fifth of the number of geese. In the counties of Down and Dublin the turkeys and geese are almost equal in number—41,991 turkeys and 43,326 geese, and 8872 turkeys and 8966 geese respectively. In the county of Meath the turkeys outnumber the geese, there being 22,659 of the former and only 19,819 of the latter. Ducks and ordinary fowl appear to be more evenly distributed; the former number about one in every five of the total poultry in Leinster and Connaught, one in six in Munster, and one in four in Ulster. Estimating the geese and turkeys at an average market price of 3s. each, and ducks and ordinary fowl at 2s. 6d. per pair, the poultry in Ireland at the enumeration in 1877 would represent a total value of £1,109,698.

— ACCORDING to the *Journal des Débats*, the number of horses in the principal countries of Europe is as follows:—Russia, 21,570,000; Germany, 3,352,000; Great Britain, 2,255,000; Hungary, 2,179,000; Austria, 1,367,000; and Turkey, 1,000,000. According to the same authority there are 9,504,000 horses in the United States; 4,000,000 in the Argentine Republic; 2,624,000 in Canada, and 1,600,000 in Uruguay.

UNPRODUCTIVE BEE'S EGGS—IVY HONEY.

AT page 287 of the current volume will be found a notice by me of a singular phenomenon which occurred here this autumn—namely, a young queen laying eggs during a period of six weeks which were unproductive.

I have now to add—though it does not lessen the curiosity of the fact above mentioned—that within the last fortnight this same queen has laid eggs which have produced grubs. A quantity of brood was found in various stages of development in large portions of two combs.

Can it be that this queen being unusually vigorous continued

laying eggs during September, the usual rest month of the year (in places like this where no honey is found in the fields), and that the bees destroyed them as fast as they were laid, tired as it were of the labours of nursing, while the queen laid on unheeding the fate of her eggs? It may be observed that the resumption of breeding was simultaneous with the commencement of an unusually good ivy honey season. My bees have been for several weeks as active in honey-gathering as in summer both early and late in the day. It is a sickly-tasted honey.—B. & W.

BEE-KEEPING.

THIS spring I had two straw hives; one of them was stocked with condemned bees that I bought last autumn, but they only quarter filled the hive with comb. I fed them this spring, but they would not swarm; for three weeks they hung outside the hive like a large swarm. On June 29th I put on a super; they began at once to fill it, but did not leave the outside. As I had no eke to put under I placed a flat-top hive under the full one. July 8th I took off the super with 20½ lbs. of beautiful honey-comb. On August 7th I drove the top hive into the bottom one, which was half full of comb. I obtained 30 lbs. of run honey—50½ lbs. in all. The other hive, which was 15 inches by 10, only sent off one swarm, which in due course I supered with an Epps's cocoa box. The stock hive I drove twenty-one days after it swarmed. From both hives I obtained upwards of 40 lbs. of honey. In all I made £5 10s. 6d., besides what we used. £1 I spent in sugar to feed with. I have £4 10s. 6d. in my pocket and three good hives of bees in my garden—not amiss for a start. I have no doubt the result would have been greater if the master of the straw hive had been at my elbow, as the master of the Stewarton apparently was at "J. R.'s." I have made many blunders, but practice makes perfect. I placed the brood comb from my best hive (there was a great quantity) into a small hive, and set it on top of the hive where the bees were, thinking they would hatch it out, but all the bees went up and took possession. I did not feed them for fear they should build comb. When the brood was hatched I drove them back to their proper hive. I was more successful with the other hive. I fastened a piece of board and bored some holes in it, put in some pegs thick enough to keep the combs at proper distance and upright like toast in a rack, and placed it under the hive. The bees have built their comb to it beautifully. At any time I can turn up the hive and take away the board and pegs now the comb is fast.

The hives are my own make, I never made any before nor saw any made. I have made one 16 inches by 10 with a moveable top, so that when I want to take the honey I can turn it on its crown, run a knife round the sides, lift it off leaving the combs fast to the crown. By running a knife between the comb and the crown I shall be able to secure every comb without breaking, what the "RENFREWSHIRE BEE-KEEPER" complains of so much at page 252. If his cross-sticks had been made properly they would not have damaged the comb. I made mine straight, round, and very much tapered, the end that stood out an inch was square. When you take hold of them with pincers give a twist; the stick then comes out without damage.—J. B., *S. Yorkshshire*.

STRENGTHENING STOCKS IN AUTUMN.

EVERYONE is agreed that it is of the first importance to strengthen stocks in autumn. Stocks so strengthened, and just in proportion as they are strengthened, will (all other things being equal) be the first to breed in the spring, the first to swarm or to fill supers as the case may be, and will generally prove the most profitable in every respect. To secure this desirable object is the aim of all bee-masters; and accordingly at this time of year, when the ivy blossoms wake up the bees everywhere and stimulate the queens to recommence egg-laying, every effort is made to increase and prolong the stimulus in this direction. Hence more or less continuous feeding is going on in all apiaries. Hence the joining of weak populations, and the saving of bees from doomed stocks for uniting with those that are being strengthened for future use.

These several plans are all excellent in their turn. They are in full use here at this present moment. But this autumn we are trying another plan, which I recommend to the notice of the apiarian readers of this Journal: it can only be conveniently tried by bar-framists whose bars are all of the same size, as they ought to be in every apiary. Our new plan consists in the saving of condemned bees and utilising them by putting them temporarily into empty bar-framed hives, two or three lots of bees together in each hive, and stimulating them to breed in empty worker combs previously adapted to the frames. At the end of twenty days, or a little earlier, the frames will be taken out, and such as are filled with brood will be transferred to the hives which it is desired to strengthen for the coming year. It is obvious how great an addition to the youthful population of a hive may be made in this way. It is far better than merely adding the populations of doomed stocks, among which are sure to be found numbers of

more or less old and moribund bees. Care should be taken after a time to remove these temporarily utilised frames should they happen to be less regular than those in whose place they were substituted. This should be done as soon as the young bees have been hatched out of them, then all can be finally arranged for the winter.

By this plan it is obvious that very large populations of late-hatched bees can be secured throughout the apiary at a trifling cost. All that need be given of sugar syrup is just that which will suffice to keep up the stimulus necessary to encourage the queen to breed. Should any of it have been stored in the combs utilised for breeding, it can be given to the bees at any time by simply arranging it in a box set superwise over any stock that may require it.

The present autumn seems to be singularly favourable to the development of late brood, owing to the great quantity of ivy blossom, which is expanding quite a fortnight earlier than usual, owing also to the summer-like warmth of the weather.—B. & W.

EXTRACTING HONEY FROM COMBS.

ONE of your correspondents, "IGNORANCE," asks, "What is the most improved method of extracting honey from the combs?" This is rather difficult to answer, because he does not say whether his object is to save the combs for future use or merely to run the honey. If the latter be his object he will find an excellent description in "Bee-keeping for the Many" at page 29. In addition to what is there said I would only advise him to cut away every atom of bee bread and brood comb before he commences to cut up the honeycomb.

If his object be to preserve the comb entire, of course the "slinger" is the only thing to use. Failing this he may do as I have done this autumn with my bar-frames—that is, slice the lids off the combs with a sharp knife, but carefully, and then proceed to scrape down the honey on both sides of the comb, leaving the base of the cells as little injured as possible. This ought properly to be done in warm weather. If the comb is pretty tough most of the honey will run off in a few hours without seriously injuring the fabric—the comb being stood upright over a dish. This done, in my own case I have given the comb to my bees to clear away; and I have some now which the bees have utilised in a hive I have been transferring. They have succeeded in very neatly reforming and refilling the cells from their foundation. I doubt the possibility of treating in this way any fresh honeycomb out of hives without bar-frames, as the combs would infallibly break up.—B. & W.

OUR LETTER BOX.

COCKEREL HAVING BRONCHITIS (*H. Smith*).—Give him bread soaked in ale twice daily until recovered.

CLEANING BIRD SEED (*M. H.*).—The best way to clean Canary seed is to three-palls it a cotton stocking, and with the end tied up exercise yourself for a few minutes by holding the ends of the stocking in each hand, and with an up-and-down motion shake well the seed. Afterwards rid the seed from dust and chaff with the aid of a fine sieve, at the same time converting your mouth into a makeshift winnowing machine.

PARAKEET UNHEALTHY (*E. W.*).—As your Parakeet is suffering from an attack of diarrhoea you may now discontinue the fruit diet. Rust in the food or two or three rusted nails in the water will act beneficially. You have done all you need to do in piercing the swollen feet to let out the humour. Occasionally bathe the bird's feet with warm water, and when dry anoint them with the oil of almonds. Do not use sawdust. Lower the perches to within a couple of inches of the cage floor, upon which place some clean moss or soft hay. As the bird gains strength raise the perches.

PRESERVING EGGS (*G. S. B.*).—We cannot tell why the eggs painted with linseed oil proved bad. Employ eggs quite fresh. We have had eggs that have been kept twelve months, and then perfectly fit for any culinary purpose. We generally use a glazed breadpan. The bottom should be covered with slaked lime wetted to a consistence that will allow anything put in it to stand upright. The bottom layers of lime will be 2 inches thick. The eggs are stuck in this small end downwards close together, but not touching. When the bottom layer is full, then a fresh mixture of slaked lime is poured till thick enough for the eggs to stand up in it, and so on till the pan is full. The eggs should be perfectly sound in shell, not cracked or in any way injured, and they must not touch each other.

CANE.—"J. B." desires to know where he could obtain cane for making hives.

COVERING STEWARTON HIVES (*G. B. B.*).—Heavy wooded hives are an exploded idea, the lighter being every way better and more porous. All hives whether of wood or straw must be carefully protected from the weather by some good external covering, such as a bee house, straw hackle, or wooden cover, for each stock singly, in keeping with the taste or means of the bee-keeper. My colonies are on single pedestals protected by covers of square and octagon form; these are of wood, three-quarters of an inch thick, 18 inches wide, by 27 inches high at the eaves. The body and top are alike moveable, the last named covered with thin zinc surmounted at the apex by a turned vase, well painted stone colour. These covers are thoroughly useful as well as ornamental. If slides project 1½ inch to draw by, and are made to work very easy at the start, they give no trouble afterwards; if cut too short and fit tightly they require a pair of pincers to draw them. The sun's rays in summer, and a heated smoothing iron at other times, are said to be sufficient to soften any amount of propolis, but after twenty years' experience I have never had occasion to employ either.—A RENFREWSHIRE BEE-KEEPER.

BEES (*R. A. M. J.*).—Bees would no doubt do well in a hayloft, provided good pasturage was afforded outdoors, supplemented by artificial feeding as required.

CHLOROFORMING BEES (*J. Salter*).—If you can cover and surround the strong colony of bees which are under the plastering of your house with any kind of strong cloth slightly damped you may both save the bees and take their honey by the use of chloroform. The nest being 14 feet from the ground is the greatest difficulty. First go up the ladder with some smoking cotton rags in your hand, and if the bees be disturbed apply the smoke and master them till you see how the cloth can be fixed, then fix the cloth as closely around the bees as you can with a taceup saucer inside. When this is done pour an ounce or two of chloroform into the saucer. The chloroform will act instantaneously and cause the bees to make a great buzzing noise. As soon as the noise subsides the bees will be found in the cloth, and should be speedily hived, and all the combs promptly cut down and removed. An expert in bee management could easily use the combs from the bees without the use of chloroform, and have them afterwards.

TOMATO SAUCE (*Rus in Urbe*).—Stew a dozen large tomatoes with Cayenne pepper and salt until they become like a marmalade. Pass them through a sieve to remove the seeds, and stir until it is of the consistency of very thick cream, then add a half pint of nice broth and a little butter; or if you have no broth a little warm water, and 1½ oz. of butter, with two table-spoonfuls of grated biscuit, or bread may be stirred in just before sending to table. In seasoning the same use very little pepper. It will be a nice accompaniment to beefsteak or cold roast beef.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				
	Barometer at 32° and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Temperature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
1878.										
Oct.										
We. 23	29.534	45.4	45.2	W.	51.4	54.7	40.3	84.1	36.8	0.190
Th. 24	29.528	53.0	52.3	S.	50.7	59.3	45.7	74.5	41.2	0.504
Fri. 25	29.523	45.3	44.4	S.W.	50.0	55.6	43.4	92.2	39.8	0.263
Sat. 26	29.006	48.8	48.0	S.W.	49.3	55.0	44.1	86.3	39.9	—
Sun. 27	29.472	43.0	41.6	N.	48.4	52.3	36.2	86.2	32.6	—
Mo. 28	29.735	41.7	41.2	W.	47.2	52.0	36.0	89.8	32.7	—
Tu. 29	29.795	42.9	39.5	N.	46.8	46.3	39.0	74.7	34.1	0.010
Means	29.428	45.9	44.3		49.1	53.6	40.7	85.4	36.7	0.940

REMARKS.

23rd.—Fine bright morning, shower at 2.50 P.M.; fine afternoon, damp evening. Air temperature down to 32°, and a little snow.

24th.—Wet morning, heavy rain at 11 to 11.15 A.M. with squall of wind; fine bright afternoon; cold starlight night.

25th.—Fine, bright, cool day; beautiful starlight evening.

26th.—Heavy showers during the morning; fine afternoon, but stormy-looking sky, and windy; starlight evening.

27th.—Very fine fresh autumnal day.

28th.—White frost in early morning, shower at 11.30 A.M., and slight shower 2.15 P.M.; fine afternoon, with sunshine; wind rather high in evening.

29th.—Clear cold day, bright sun at intervals; solar halo at noon; starlight night.

Seasonably cool weather seems to have set in, but although there have been traces of white frost on metal surfaces, none has yet been formed on grass, and the air temperature has not yet fallen below 56°.—G. J. SYMONS.

COVENT GARDEN MARKET.—OCTOBER 30.

THE only feature in our Market has been the steady fall in Kent Cobs, there being a disinclination on the part of buyers to do much business at present rates.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½	sieve	2	0 to 4	Melons.....	each	1	0 to 2	0
Apricots.....	dozen	0	0	0	Nectarines.....	dozen	0	0	0
Cherries.....	½	lb	0	0	Oranges.....	½	100	8	16
Chestnuts.....	bushel	0	0	0	Peaches.....	dozen	8	0	12
Currants.....	½	sieve	0	0	Pears, kitchen.....	dozen	0	0	0
Black.....	½	sieve	0	0	dessert.....	dozen	2	0	6
Figs.....	dozen	0	0	0	Pine Apples.....	½	lb.	3	0
Filberts.....	½	lb.	0	8	Pistons.....	½	sieve	2	6
Cobs.....	½	lb	0	8	Raspberries.....	½	lb.	0	0
Gooseberries.....	quart	0	0	0	Strawberries.....	½	lb.	0	0
Grapes, household.....	½	lb	0	9	Walnuts.....	bushel	5	0	8
Lemons.....	½	100	6	0	ditto.....	½	100	6	0

VEGETABLES.

		s.	d.	s.	d.		s.	d.	s.	d.	
Artichokes.....	dozen	2	0	to	4	Mushrooms.....	pottle	1	0	to	2
Asparagus.....	bundle	0	0	0	0	Mustard & Cress.....	punnet	0	2	0	4
Beans, Kidney.....	½ lb	0	3	0	0	Onions.....	bushel	3	6	3	3
Beet, Red.....	dozen	1	6	3	0	Pickling.....	quart	0	4	0	6
Broccoli.....	bundle	0	9	1	6	Parsley..... doz.	bunches	2	0	0	0
Brussels Sprouts.....	½ sieve	3	0	4	6	Parsnips.....	dozen	0	0	0	6
Cabbage.....	dozen	1	0	2	0	Peas.....	quart	0	0	0	0
Carrots.....	bunch	4	0	8	8	Potatoes.....	bushel	3	6	4	6
Capsicums.....	½ 100	1	6	2	0	Kidney.....	bushel	4	0	5	0
Cauliflowers.....	dozen	3	0	6	0	Radishes..... doz.	bunches	1	0	1	6
Celery.....	bundle	1	6	2	0	Rhubarb.....	bundle	0	0	0	0
Coleworts..... doz.	bunches	2	0	4	0	Salsify.....	bundle	0	0	0	1
Cucumbers.....	each	4	1	0	0	Scorzonera.....	bundle	1	0	0	0
Endive.....	dozen	1	0	2	0	Seakale.....	basket	0	0	0	0
Fennel.....	bunch	0	3	0	0	Shallots.....	½ lb	0	3	0	0
Garlic.....	½ lb.	0	6	0	0	Spinach.....	bushel	2	6	4	0
Herbs.....	bunch	0	2	0	0	Turnips.....	bunch	0	2	0	6
Leeks.....	bunch	0	2	4	0	Veg. Marrows.....	each	0	2	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week	NOVEMBER 7—13, 1878.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
7	TH	Sale of Orchids at Stevens's Rooms.	52.1	36.7	44.4	7 6	4 21	2 56	4 18	13	16 11	311
8	F		52.0	34.3	43.1	7 8	4 20	3 11	5 27	14	16 7	312
9	S	PRINCE OF WALES BORN.	50.5	33.8	42.2	7 10	4 18	3 30	6 39	15	16 2	313
10	SUN	21 SUNDAY AFTER TRINITY.	50.4	34.0	42.2	7 12	4 17	3 55	7 51	16	15 57	314
11	M	Sale of Nursery Stock at Long Cross.	50.2	34.2	42.2	7 13	4 15	4 29	9 0	17	15 50	315
12	TU	Putney Chrysanthemum Show.	50.2	33.8	42.0	7 15	4 13	5 14	10 4	18	15 43	316
13	W	Brixton Chrysanthemum Show.	49.9	35.2	42.6	7 17	4 12	6 12	10 58	19	15 35	317

From observations taken near London during forty-three years, the average day temperature of the week is 59.9°; and its night temperature 34.5°.

ABOUT POTATOES.

LATE Potatoes in this neighbourhood are a very light crop of small tubers: it has been again abundantly proved that early-ripening sorts are the most profitable to grow. I have fortunately grown nothing in quantity but Myatt's Prolific, with the true old Ashleaf for the earliest. None of the so-called improved varieties are as early by a fortnight as this, although several of them are better croppers. I have no idea how long the stock of the old Ashleaf has been here, perhaps half a century, but it never varies and never shows a flower. This season it produced an excellent crop, quite as heavy as Myatt's, but that is an unusual occurrence; it generally produces little more than half that quantity. Part of the seed of Myatt's Prolific was home-grown and part was bought from a totally different soil, but there was no appreciable difference at taking-up time—all were good alike for the season, averaging considerably more than two bushels to a perch. In addition to the seed coming from two sources, my own was taken up early in July last year before it was anything like ripe, and indeed some of it was not fully grown, while the bought seed was not lifted till the end of September.

I cannot argue the point with those who recommend changing of seed, but I can speak from a limited experience and say that the benefits arising from changing of seed here are invisible, and I am inclined to think non-existent. I do not say that changing is never beneficial; I have heard and read enough to almost convince me that it is sometimes productive of good results. There are probably some soils where the Potato deteriorates and would in course of time become almost worthless, and in that case it may be necessary to obtain a fresh stock frequently from a more congenial soil. But supposing A to possess a soil where he finds it necessary to have frequent changes of seed, and B to have a soil which continually produces a fair average quantity and quality of the good standard kinds from the same stocks, A may obtain seed from B, and the results the first season may be extraordinary; but I think B would not be likely to have such results with seed obtained from A. Part of this statement is of course little more than theory, and I should be glad to learn if in any mutual exchange of seed both parties claim to see an advantage. It will not surprise anyone after this statement if I say that in many cases more good may be done by selecting one's own seed and taking the greatest care of it than can be done by exchanging, for in the latter case the selecting of seed, which is a very important matter, is not likely to be done at all times so carefully. This does not apply to new or foreign sorts, for in some cases of new, or reputed new, varieties the characters are not anything like fixed, and some of the American Potatoes do not retain their good qualities long after leaving their native country.

As I said above, the selecting of seed is a very important matter. It is a mistaken economy to eat all the best tubers and save those that are small and misshapen for seed; eat

all the biggest if you like, and the smallest too if you can persuade anyone to cook them, but medium-sized good-shaped tubers should always be taken the greatest care of, laying them out singly soon after they are lifted; especially is this necessary with the kidney-shaped kinds, and they only take up half the room for storing this way that round kinds do. If they ever make growth which has to be rubbed off it is the best economy to give them at once to the pigs.

I should like to ask those who are qualified to answer, What is the object of Potato exhibitions, and are they likely to produce good results or the reverse? What are the principal points in judging Potatoes? Is there anything besides the appearance of the few selected tubers taken from nobody knows how much ground to guide the judges when dealing with sorts with which they are unacquainted? I know some people suppose that rough skins, white flesh, good shape, and shallow eyes are some of the points to look after; but the first and second are misleading, and the third and fourth are often more than counterbalanced by faults only known to those who dig and eat them. Is there anything else to guide us distant countrymen supposing we are called on to adjudicate in some great Potato tournament? The few dishes we have at our country shows are sufficiently puzzling; even the cooked tubers are cold when judged, and consequently have to be estimated principally by appearance. I would cheerfully undertake to act as censor on a couple of dozen dishes fresh cooked and hot, although even then it would be difficult to say how much credit belonged to the cook and how much to the tuber; but collections of known and unknown raw Potatoes are at present a puzzler. Who will enlighten me?—WILLIAM TAYLOR.

TEA AND NOISETTE ROSES UNDER DIFFICULTIES.

In your number of the 3rd of October "HEREFORDSHIRE INCUMBENT" draws attention to the difficulties I formerly experienced in growing Teas and Noisettes in an unfavourable atmosphere and an unsuitable soil, and he alludes to the improbability of my being able to exhibit them from such a locality. Now it is an unfortunate fact that the reverend rosarian's remarks are substantially correct. At one time I had two gardens both in close proximity to iron foundries and subject to the injurious influence of their sulphurous fumes, no clearer evidence of which can be had than the tendency in such a situation of blue Delphiniums, Anchusas, Myosotis, and other blue flowers to assume a reddish or purplish tint, when the same varieties grown away from such influence, but otherwise under similar conditions, retain their natural brilliant blues. The soil of both gardens consisted of a rich shallow and light artificial humus on a rubbly limestone subsoil, and much of that material being integrated with the surface. The situation was on a southern slope, and the summer sun hot and the soil forcing; but with this I had, in addition to the cold spring winds of the east of England, which usually allow but one good crop of fruit on the average in seven years, the full effect of the malaria and miasma from a spongy

meadow, alike injurious to man, quadrupeds, and plants; it was therefore hardly to be wondered at that neither Teas, Noisettes, nor the more delicate Hybrid Perpetuals should appear largely in my exhibition stands. Experience, however, taught me much and enabled me partially to overcome these apparently insurmountable obstacles; and although I was never able to counterfeit the late amiable Rev. Geo. Arkwright's wax-like shell-built Souvenir d'un Ami, Mr. Cant's famous La Boule d'Or, or the Rev. E. N. Pochin's massive and deep golden Maréchal Niel, and as he showed in his first forty-eight at Grantham (I believe in 1872), and which is only justice to him to say was one of the best blooms in the best stand ever exhibited by an amateur, as Messrs. Gayter and Merryweather will, I am sure, confirm me—I did eventually succeed in securing very respectable show blooms, and for some years successively at the York Shows in June I carried off the first prizes for Teas and light Roses. That this success, however, was not obtained except at the cost of much labour and the yearly deaths of a whole army of floral martyrs I am free to admit, but at the end of fifteen years there was a remanet of other varieties whose health and vigour constituted a valuable testimony to their powers of endurance under such adverse circumstances; I cannot, therefore, do better than enumerate them. The older varieties being Céline Forestier, Gloire de Dijon, Cloth of Gold, Lamarque, La Boule d'Or, Maréchal Niel, Safrano, Solfaterre, Triomphe de Rennes, Alba Rosea, Devoniensis, Rubens, President, America, La Pactole, Bougere, and Madame Falcot; and of the more recent sorts best able to brave the defects of soil, situation, and climate I found Rêve d'Or, Belle Lyonnaise, Madame Berard, Bouquet d'Or, Souvenir de Paul Neyron, Madame Hippolyte Jamain, Catherine Mermet, Marie Van Houtte, Anna Ollivier, Marie Arnaud, Marcelin Roda, Comtesse Nadaillac, Madame Caroline Kuster, Climbing Devoniensis, and lastly, as a doubtful but necessary member of the family, and which I consider to be one of the best, if not the very best, Rose ever raised—Cheshunt Hybrid, and yet this Rose when first exhibited by Mr. George Paul at the British Association's Horticultural Show at Nottingham, like La France, was only captivating by its singularity; but admirers of the Rose are liable to variation of taste as well as fashion in regard to their pets.

The more delicate sorts I could only keep up by continuously working fresh stock on the Briar, as I never found Teas to survive more than about two years on the Manetti and on their own roots. The propagation of weak growers is neither a rapid nor useful process. The cause of death of the martyrs in most cases arose from the injuries sustained by the very early growth caused by the forcing character of the soil, as, notwithstanding any amount of temporary shelter, the young growth was sure to be checked and sometimes repeatedly by the frosts of March, April, and May. A good covering for tender Roses is the common Bracken, or better still, the dry haulm of garden Peas loosely tucked in between the branches, tying only where absolutely necessary; this in a mild season can with advantage be removed and quickly replaced in case of a sudden decrease of temperature. For growing Teas and Noisettes for exhibition a wall or fence from 4 to 5 feet in height with north and south aspect is desirable, the Roses to be planted on each side and alternately as dwarfs on their own roots and standards or half-standards on the Briar about 3 feet apart, the plants to be left unpruned, and the vigorous shoots when long enough to be bent back and loosely trained over the wall. By this means both sides of the fence will be well covered, and blooms may be had either from dwarfs or standards and from one side of the wall or the other during a very protracted exhibition season, and the shade and shelter afforded by the overhanging branches will protect the blooms and heighten the colours.

Such sorts as Cloth of Gold, Maréchal Niel, La Boule d'Or, and L'Enfant Trouvé will do well worked on a strong old Banksian or Fortune's White, or even an established China or Boursault, which should be allowed to run wild and overhang at the top, so as to afford shade and shelter for the blooms, the importance of which in growing Maréchal Niel in its true form and colour cannot be over-estimated, and I have a suspicion forms at least one of the means of the Rev. E. N. Pochin's success in obtaining the orthodox pure golden colour which his glorious blooms almost constantly show. It is, however, certain that wherever there is a want of foliage (and the Maréchal especially in early spring is particularly defective in this respect) the colour of the blooms is invariably washy and faded. A remedy for this want can be partially supplied by allowing the shoots to ramble amongst the foliage of a Vine,

Pear, Plum, Fig, or other fruit tree on a wall, or to train the branches horizontally under a projecting coping or the eaves of a building, and the advantage of, and I might say the necessity for shade and shelter will be apparent; but the full and best remedy is supplied by the foliage of the stock, especially when the Banksian is employed for the purpose. These remarks apply also to a considerable extent to Cloth of Gold, or, as it is termed on the continent and in Jersey, "Chromatella," which, so far as I have observed, is one and the same variety. The growth of Cloth of Gold, as the Banksian, when the knife is not unsheathed and a liberal treatment is observed, will be marvellous. Such a dislike has this variety to surgery that I have heard it stated if the gardener approaches Cloth of Gold with a knife in his pocket it will not bloom, and this dislike to knife and scissors is exhibited in little less degree by the Maréchal and most other Teas and Noisettes, and the only pruning they require is the removal of unhealthy overaged wood.—T. LAXTON, *Bedford*.

HOW I GROW LILY OF THE VALLEY AND FORCE IT.

I HAVE just been examining our stock of Lily of the Valley grown for forcing, and find the crowns extra strong and forward. As the system I pursue in the cultivation of this esteemed flower is different from the means generally employed for the production of its flowers out of season, and the results better than one commonly finds, a detailed account of how our plants are treated may be acceptable to those of your readers desirous of having forced Lily of the Valley at its best.

Suppose a commencement is made from the present time when the plants have finished their annual growth and are merely waiting to be introduced into a growing temperature to yield their crop of flowers and foliage, and make thereafter another season's growth. The entire stock of plants will shortly be removed from their present position, when they are plunged in a border facing the south and placed close to the wall of a stove, where, with the addition of a few mats thrown over them during severe frosts, they are safe from harm at the roots. Many of the plants have so filled the pots with roots as to have forced themselves above the level of the pot rims. All such are now transferred into pots just a little larger, so that water may be more efficiently applied. The surface of any of those that require levelling is also done now. The earliest forced batches of the preceding season are marked "first forced," "second forced," "third forced," and "fourth forced," and it is from these that the earliest forced flowers of the current year are produced, as they are found to be capable of being brought into flower quicker than are those which had not been started so early the previous season.

Various ways have been tried to bring on the earliest lots, but none with such good results as placing the pots underneath the stage of a forcing pit, and keeping them covered with straw until the buds have pushed an inch or two. They require to be gradually brought to bear the full light. As the flowers commence opening the plants are removed to a cooler structure in order to render them as hardy as possible and capable of enduring in rooms, or when cut. Those that are sent to the house are sent when the greater portion of the spikes have many flowers unopened. In this way the time they last is lengthened by several days, a matter of some importance when somewhere about twenty large and small plants are expected continually in the house during the first four months of the year. When the plants go out of bloom they are placed in a growing temperature, and are kept growing under glass until the weather is warm enough in May to place them outdoors. The later batches are brought on in moderately heated structures, and do not require at any time to be subjected to a forcing temperature.

About this time any plants requiring larger pots are re-potted. A good loam is used. Fresh potfalls are formed at this season; clumps corresponding to the size of pots to be filled being lifted, potted-up, and kept with the other plants over the winter. The size of pot used varies considerably, the greater number of plants being in 9 and 10-inch pots, though both larger and smaller pots are employed.

About the beginning of June the plants are transferred to their summer quarters, a position on a sunny border, where the pots are plunged up to the rims. They are placed on smaller to secure a clear outlet for drainage water. Here they are supplied with liberal waterings of weak liquid manure throughout the summer; during winter and the forcing season pure

water alone being given. From one year's end to the other the soil is kept in a moist condition. When in full flower in rooms, saucers to fit the pots are used and kept full of water.

These are the essential points I observe in cultivating Lily of the Valley—much trouble, many of your readers will doubtless think. Well, there is more trouble necessarily involved than in growing continental produce, or in stowing the pots away in some corner where they may be sometimes remembered, oftener forgotten. But then the potfulls of charming flowers and foliage I have every season to present my employers with would fully compensate for much more trouble than is incurred in their cultivation, and I am certain anyone who may be induced to try the mode of cultivation just explained and give the plants attention, will never regret any little extra work that may be thereby imposed on them.—R. P. BROTHERSTON, *Tynningham*.

GRAPES NOT COLOURING.

WITH regard to the note (page 298) made by "A KITCHEN GARDENER" on the want of finish in Grapes this year, allow me to say that my remarks in the "Gardener" applied to five or six counties besides East Lothian, in which I had seen badly finished Grapes. At the grand show of fruit in Edinburgh there was a great want of finish in many of the Grapes. Thick-skinned Grapes, such as Lady Downe's and Alicante, have coloured well, but it is notorious that some of our best Grape-growers did not exhibit this autumn, and that in one instance where some magnificent specimens were shown these had been ripened some ten weeks before being shown. Another evidence of the bad effects of over-much heat I find in the number of rusty berries amongst white Muscats. I believe Mr. Douglas of Loxford Hall cured this tendency in Muscats to rust when ripening by increasing the ventilation.

I am starting late Grapes earlier every year, and in localities like this, where there is the chance of having the Grapes cooked into sweetness now and again, a still earlier date for starting and ripening must be instituted. Grapes ripened in July keep in excellent order till the following March or April: and as Lady Downe's, the latest keeping of Grapes, is not affected as regards ripening by over-much heat, we must make a point of getting such fine late Grapes as Gros Guillaume, Calabrian Raisin, Royal Vineyard, Gros Colman, Black and White Muscat of Alexandria, and perhaps Mrs. Pearson, ripened in July. The only Grapes I expect to keep well this season are Lady Downe's and some Muscat of Alexandria ripened in that month and the beginning of August.—R. P. B.

MANETTI VERSUS SEEDLING BRIAR.

FIRST, the Manetti does not produce suckers like the Dog Rose, but it emits a quantity of shoots beneath the neck or collar.

Secondly, the Dog Rose produces suckers in abundance, which are more easily discerned by the inexperienced than shoots on Manetti.

Thirdly, the Manetti is the best stock for most Roses; it will thrive well on nearly all soils, but especially on poor or sandy soils if heavy manures (cow or pig) are added.

The above notes are written from practical experience, for being in the trade I have had to contend with Manetti shoots the same as have other growers. But why? Because I was in the habit of trusting careless hands to make the cuttings for stocks. Now I pass every cutting through my own hands or some other experienced persons, who will allow no eye however small to escape cutting out, and now as a consequence I am scarcely ever bothered with the Manetti throwing up a shoot.

How is it the Manetti has got into such disrepute? Because nurserymen or trade growers will not always carefully disbud the stocks that are sent out. They say it does not pay to disbud when Roses are so cheap and labour so dear; therefore many Roses when sold linger awhile and then in course of time are completely smothered by the stock: hence so many fine Manetti bushes (not Rose trees) are seen in different parts of the country, the owners waiting in vain for beautiful flowers and healthy glossy foliage.

The Manetti is a fine foster-parent (nothing more), for a Rose worked on that stock should be on its own roots the second season after planting, which is generally the case, provided it has been completely buried below the worked part, say 2 or 3 inches. Unfortunately Roses are not always planted

properly; the collar is often left bare, and if there is an undisbudded eye on the stock it is sure to assert its supremacy over the Rose.

Mr. Prince, the champion of the seedling Briar, tells us in his Rose list that how he accounts for his Roses doing so well is because he can change the soil at intervals, having plenty of fresh land at his disposal. Now I venture to say we can all grow Roses either on one stock or other well if we had the same facilities, but unfortunately we have not. Roses grown on fresh land would hardly need manure. We feel thankful if we can get hold of a little decayed turf now and then. How happy ought a man to be who can get plenty!

Here I should like to ask a few questions with regard to Roses on seedling stocks. Must rows on seedling stocks be planted above or below the worked part? If the worked part is left exposed how will a season like 1860 affect it? Will the plants be killed down to the ground, as ours were that year? if so, they cannot be regarded as the best stocks for the propagation of Roses. The Dog Briar never thrives well on sandy or light soils, a strong soil being its natural habitat. I do think the seedling Briar is a good stock for Tea Roses, as also is the Dog Briar raised from cuttings; but they should be disbudded like Manetti, which would not be so easily accomplished with seedlings.

The Manetti if planted deep will be safe from the severest frost, for if cut down to the ground line it would spring up more vigorous than before.—W. C. A.

I SHOULD like to take this opportunity of corroborating my friend Mr. Peach's theory that the Manetti stock when properly disbudded does not fling out true suckers or runners like the Briar undoubtedly does. I bought from my neighbour at King's Acre last autumn some eight dozen of Tea and Noisette Roses in pots, including among others all the varieties mentioned in my list published on page 309. I wintered the lot in cold frames under an east wall, occasionally watering the plants with weak liquid manure. When planted out in the ground in spring I found that in the case of two plants only was there any trace whatever of Manetti shoots growing, and these in a very weak state; and I venture to state that where special care is taken (as generally is the case with pot Roses) in disbudding, there is no danger of any overgrowth from so-called suckers with the Manetti.

It is also interesting to notice as a matter of fact that I find at the present time only one among the lot of Teas and Noisettes I have mentioned—though budded on the Manetti, and many of the varieties undoubtedly delicate in habit and dwarf in growth—that has failed to grow healthily and does not promise, with the good start they have got, to hold their own in their rough foster-mother's embrace, though I am aware my experience is in this respect contrary to that of most of my brother rosarians.—HEREFORDSHIRE INCUMBENT.

KYO LEEK CLUB.

THE above Club held their first annual Exhibition of Leeks on the 26th ult. in the large room of the Earl Grey Inn, Kyo. This Club is composed this year of forty-three members, each contributing 3s. 3d. per year in monthly payments of 8d. each. The members are principally miners; and each having to exhibit three Leeks *bona fide* their own growth, which rule is most zealously and strictly carried out, it creates a vast amount of interest in the growing of this useful vegetable in the district, which embraces a two-miles radius of the Earl Grey Inn; and the results show that the pitman gives his attention to something more than the proverbial bull dog. There are no better vegetable growers than the north country miners when situation and means are taken into consideration, one of the successful competitors living at an altitude of 980 feet above the level of the sea and exposed to frost and snow till the latter part of April.

As may be expected, the task of the Judges—Mr. J. Robinson of Shotley Bridge, and Mr. R. Shield of Swalwell—was no sinecure, as there was some keen competition among the thirty-nine exhibitors. The first-prize trio were a fine level lot with 10 inches of blanch and $5\frac{1}{2}$ in circumference. The second were about the same circumference, but half an inch shorter. The third were shorter again by an inch, but were 6 inches in circumference but not quite white.

After the Judges had performed their task the room was thrown open to visitors at a charge of 3d. each, of which upwards of a hundred availed themselves of the opportunity of seeing the Exhibition. The prizes consisted of various useful articles for gardening and household purposes, varying in value from 16s. down to 1s. 6d. Twenty-six exhibitors received prizes for superior

produce, each winner taking the article he liked best in rotation as placed by the Judges; and two were awarded special prizes of a quarter of a pound of tobacco each for the poorest stands of Leeks in the Show.—J. ROBINSON, *Dipton Colliery, Lintz Green, Honorary Secretary.*

[We publish the above report with pleasure, and compliment the colliers on spending their leisure hours so worthily.—EDS.]

ABOUT VINES.—No. 2.

In continuing my jottings about Vines I shall proceed with a plain statement of my own doings, and to make them the more useful to amateurs I shall certainly not neglect to particularise all the failures I have met with. To be apprised of the vicinity of danger I hold to be of more value than to be taught the road to success.

Here it may be well to explain, as I have been taught by a neighbouring mining engineer, the ground I occupy is the ancient watercourse of the Wear that now runs by it, and the soil being shored-up by the many floods of past ages accounts for it being of quite a different nature at short distances. Where my first vinery stands the subsoil is a mixture of clay, gravel, and sand; whereas where my second stands it is pure sand, which I am told is 100 feet in depth. This will partly explain the reason of my forming the two borders in different ways, the field being all fine old turf.

When commencing to form the roads and making preparations to build my first proceeding was to take the first spit from all paths, foundations, and the space my house was to occupy, and then to store it in the handiest spot for the borders. The next proceeding was to provide ample fall for drainage. I did not wish to raise my vinery an inch more than was necessary, but I made sure not to have the border stagnant. The place chosen for the border unfortunately fell 3 feet to the north-east. To surmount this difficulty I built a 21-inch stone wall 3 feet above the surface at the lowest end, and the top of this stone foundation formed the surface level after the border was completed. The good soil was first wheeled out from the whole space, and next the subsoil was carted out to fill-up the different paths from whence we had already taken the good soil. After a fall of 6 inches had been secured from back to front the bottom was thinly spread over with Portland cement, it being mixed with two parts of sharp sand. As soon as it was sufficiently set to allow being wheeled over by the aid of battens, stones and lime rubbish was spread over about 6 inches thick, a sufficient quantity having previously been screened to take out the smaller rubbish which was afterwards mixed with the border. The next proceeding was to cover the whole carefully with fresh-cut sods, the grass down. After this the border inside and out was filled up to its proper height with turfy soil. Inside, and of the portion of the border outside then made, there is 400 cubic yards, as the turf was laid a yard thick. To the soil was added about twenty loads of cow manure and half a ton of bones; the latter being kept handy a few were thrown into each barrow. In the report of my place I noticed that the bones were printed stones, and it appears I had neglected to mention to Mr. Wright the cow manure; the fact is, the quantity used was so small that I might treat it rather lightly. The front wall is 9-inch pillars with 2-feet arches the whole length, the under side of the arch being 6 inches below the surface of the border.

My second border received about the same quantity of manure, but no bones, and I only made the inside border 6 feet wide. The back part being intended for Peaches, I only added a little turf to what there was without disturbing the subsoil. The bottom being sand, I dispensed with artificial drainage entirely. I shall next notice the first year's growth of the Vines and the treatment they received.—JOSEPH WITHERSPOON, *Red Rose Vineries, Chester-le-Street.*

TROPÆOLUM TUBEROSUM.

I PURCHASED in 1877 from Messrs. Hurst & Son, Leadenhall Street, three small tubers of *Tropæolum tuberosum*, each about the size of a Cobnut. They thrived and blossomed well. On digging them up I found about 2 lbs. of tubers to each, some weighing 5 ozs. Can they be used for food? Are they palatable? This year some stems have risen among the branches of a Fir tree to 9 feet in height, and are now in blossom all the way up. If of no use their ornament is great.—P. H. W.

[The tubers of *T. tuberosum* when cooked are eaten by the

natives of Peru. They have also been tried in this country, and been considered by some to form an agreeable dish. When boiled they are of a soft pulpy substance, and in flavour resemble Seakale mixed with the hot taste of garden Cress. Some who have thus used them state that they have a very delicate flavour like the richest Asparagus and superior to the Potato, but they are disposed to be watery and not to boil firm. It has been found that when used immediately after being taken up the tubers have a disagreeable taste; and to remedy this, in Bolivia, where the plant is called *Ysano*, they freeze them after they are cooked, and eat them when frozen. The ladies of La Paz are very fond of them, and in the season of the *taichas* large quantities are sopped in molasses and taken as refreshments during the heat of the day.—EDS.]

TOMATO AND CALCEOLARIA DISEASE.

I HAVE grown Tomatoes for seven years, and the first four years the plants had the disease seriously. The cause of the disease I consider was the result of turning the plants out too early, because during the last three years I have grown the same sorts in the same place and soil, and have had no disease but abundance of sound fruit. I used to plant them in May, but now do not plant until towards the end of June.

Now to the Calceolaria disease. I have a friend next door who always obtains cuttings from me. One sort only is grown. He inserts his cuttings in 48-size pots quite thickly. In the spring he pots them off; and when he does so, through their being so close together, their roots are greatly injured. When turned in the beds he loses nearly all with the "disease" as he says. I grow the same sort of cuttings from the same plants, but I insert them about 2 inches apart in a cold frame. In spring I take them up with soil adhering to their roots, and plant them about 8 or 9 inches apart in other cold frames; from there they go to the flower garden, and I do not lose above three or four plants all through the summer, and they bloom profusely. I grow about five hundred plants, my friend grows very many more.—W. L., *Barnet.*

DRESSING CARNATIONS.

It seems to me that in this controversy those who take the opposite side have the advantage over me. I always sign my name, they are anonymous, and under that cover are not over-particular what they say. "A STAFFORDSHIRE GROWER" in last week's issue wishes to "clear up a point or two." Now I am quite willing to make a statement on this point. If your correspondent will give his real name and address in this paper I will also publicly state whether I employ a professional dresser and how much I pay him for his services. There is one thing that is kept quite in the dark in this controversy which will open people's eyes to the one-sided way in which it has been carried on, and particularly by this correspondent. It is the fact that Mr. B. Simonite of Sheffield was competing against me in all the classes but three, I think. Now if it depends so much on the dressing of the flowers, how was it that in every case I beat Mr. Simonite? Will your correspondent answer that question? Again, if I did not exhibit honestly, how was it that Mr. Dodwell, Mr. Simonite, Mr. Rudd, and the other exhibitors, all of whom knew how my flowers were dressed, did not enter a protest at the time in the usual way? As to the letter signed "GILLYFLOWER," I did not know of it till I saw it in the Journal; had I done so I would not have allowed any reference to myself to have been published. As an exhibitor of many years' standing I have always been careful to comply with the rules of the schedules, and never to my knowledge did I infringe one. In the case of Carnations I adhere strictly to the rules of the National Society in their letter and spirit. If any real lover or intending exhibitor of Carnations had a desire for information on this subject the best way would be to write to the secretaries of the shows, and any complaint of dissatisfied exhibitors should be dealt with by the committee.

As to the time it takes to dress a flower, I can do four in ten minutes. I will relate an incident that happened at South Kensington as an illustration. At the last moment I was busy dressing flowers for the classes when I observed two lying in a small heap of flowers that I had cut in a hurry; and I remarked to Mr. Peter Veitch of Chelsea, who was looking on, that if I had time to dress them they would be placed first in their respective classes. I dressed them in his presence, and also placed the cards under them, I should say in less than

five minutes, as people were just being turned out. One was the scarlet bizarre True Briton that gained first prize; the other, I think, was the first-prize purple flake. Indeed while Mr. Veitch stood there I carded and dressed nearly a dozen. I fancy my friend "GILLYFLOWER" also saw me, hence his remarks. His remarks are also of the more value because he was placed second to me in one of the highest classes. As to the cutting from the paper, I presume we are now discussing the way of preparing these flowers for exhibition, and the words quoted were not used by me in that connection. I will not take any further notice of people who do not give their real name and address, or who have no other object in view than to wound the feelings of a successful exhibitor.—J. DOUGLAS.

PARISIAN NOTES ON PUBLIC PARKS AND GARDENS.

In copying out the following brief Parisian garden notes I shall proceed on the supposition that the readers of the *Journal of Horticulture* are lovers of Nature and Art, of sculpture and painting and their correlative fine arts, as well as of arboriculture and garden adornment. With this view it may not be injudicious to take *seriatim* some of the more prominent features, particularly noticing peculiarities, sights, and scenes individually, so as to avoid the confusion that would necessarily arise from attempting a reference collectively, sifting out what might be deemed unsuitable. The first thing that catches the visitor's eye are

The Market Gardens.—As you enter by the Western Railway (Gare St. Lazare) you are struck with the extent devoted to growing vegetables and fruit. Remembering there is a fixed population of two millions, and perhaps at present a large fraction of a floating one besides, this will not surprise. You will probably inquire what the long lines trained to low 3-feet trellis, resembling thin rows of Gooseberry bushes, are? These are open air Vines, and this is the usual way they are grown. On the other side of Paris, on either side of the line to Fontainebleau, I saw them more generally trained against walls. I may here say from the time you land at Dover, Dieppe, or Havre—I understand all over France—you see few cottages against the sides and over the roof of which a Vine is not trained. In several instances I tasted the fruit thus produced, and considered it sweeter than that grown indoors in England or Ireland, probably owing to the greater influence of sun and air. The prevailing kind appeared to be transparent green varieties, possibly varieties of Sweetwater or hardy Muscat with a French name. I rarely saw Black Hamburgh thus grown or sold in the shops. I need hardly say how cheap bunches of Grapes can be had in Paris. I saw no large canes as a rule—generally small and trained low. "What are the hundreds of bellglasses for?" inquired a Glasgow gentleman sitting near. These are also a peculiarity everywhere you turn. I believe, according to the season, they are variously utilised. Whole squares are covered thus, and in the sparkling sunshine at a distance the effect is undoubtedly remarkable. Lettuces at this season, and several other tender vegetables, are protected with them upon a very large scale. Although the expense of ground for garden purposes around Paris must be very considerable, I was surprised to find whole squares apparently unoccupied except by weeds, evidently since the Potato crop had been removed. This I noticed in several places; and while disposed to admit the excellence of the vegetables to be seen at the city vegetable markets near Notre Dame or in the Boulevard des Italiens, &c., I do not consider they can compare favourably with Covent Garden or even Dublin Market produce. Perhaps I may fifty take next

The Exhibition Grounds.—These are tastefully—splendidly—laid out. To avoid repetition, everything is neat and in the best taste within the whole municipal boundary from the point of view under consideration. Hosts of men are employed; why, although you have treey boulevards in all directions, no sooner has a leaf fallen, and they are doing so now as thick as those in historical Vallambrosa, than a sweeper with a long broom switches it and everything unseemly into a light vehicle kept constantly in motion. The result is that everything—streets and boulevards, crossings and pathways, bridges and quays, turf slopes and public lawns—are ever agreeable to look at. This applies still more to the grassy plots, large unprotected areas of which you see in all directions, including the lawns in the Exhibition grounds. Although 380,000 daily had on an average passed the turnstiles, on the week of my visit these lawns seemed so green and beautiful to look at that

it seems probable no foot ever touched them. These were one of the sights of this world's fair, and deserve more than a passing notice; but let me first say a few general words of this Exposition. It covers 150 acres in the heart of the city. When one has seen the London and Dublin parks, and public squares, and many private gardens, the floral display in those grounds or any part of the city will neither surprise or astonish. This may as well be at once said. The fountains at the main or Trocadéro entrance, with their circular and neatly kept carpet beds and daily-mown and hourly-watered turf, look healthy and beautiful. Worthy of notice, too, if only for contrast, were some borders near the Passy entrance, in which some fine specimens of subtropical plants attained large dimensions, while a wall behind appeared as if illumined, covered with *Cobæa scandens*, scarlet *Tropæolum*, and Virginian Creeper, the leaves of this latter having now assumed their well-known brilliant vermilion hue; indeed, all over Paris this appeared the favourite creeper for balconies and house fronts. The lawns and fountains, cascades and miniature lakes with strange devices, were special features. The exhibition of fruit and flowers drew much attention, but they have already been referred to in the Journal. The grass plots in which French and English houses competed with marked allotments for the best seed-sown lawn commanded considerable notice. The only, or two principal, English firms I noticed were Messrs. Carter of Holborn, and Messrs. Webb of Wordsley. Both looked fine and close, as did most of the French competitors. Since I returned a gentleman has informed me the Messrs. Carter received first prize, at which I was not surprised. The specimen greenhouses had many curious features, and were adapted to different circumstances, wants, and pecuniary abilities. Before parting from this ever-to-be-remembered world's fair I should notice the system of hydrants, with their attached light and convenient hose. You find them everywhere. They are used for grass, for walks, for roads, with a perforated nozzle, and must have had a most refreshing effect during the warm weather. Feeling the inadequacy of any observations within my limits I must still more hurriedly note

The Jardin des Plantes, combining the botanical features of Kew with the ornithological and zoological collections of Regent's Park, with many other additional attractions, as a free public library containing seventy thousand volumes, a chemical laboratory, and museums of natural history and anatomy. Here were placed Humboldt's American tropical collection of rare plants, and from a mound with a cast bronze pavilion splendid views can be obtained, not only of this extensive public garden, but of many interesting scenes around. The greenhouses, which are not proportionally extensive, I regret I cannot compare to Kew, and hardly to our own smaller but superb botanical garden at Glasnevin. The healthy appearance of the plants certainly loses much by contrast, if the drier atmosphere and climate does not partially explain it.

The Jardin d'Acclimation.—This should not be missed if possible by the visitor, if only to see the zoological collections, which were almost all eaten during the last siege, but since restored. Trees, lakes, walks, flowers, botanical collection, and sweet music, with many things to interest beside, can be here enjoyed; and for those satiated with noise, excitement, and the bustle of the city there is to be had the blest retirement and seclusion of quiet retired walks under drooping foliage, reminding one of the walk preferred by Addison in the Glasnevin Botanic Gardens, where, in company with his friend Tickel, they planned and wrote the immortal essays in the "Spectator" and "Tatler." Taking next some of the city public gardens I may appropriately commence with

The Tuileries Garden.—This, I understand, was originally an orchard, and has, I believe, undergone many fearful changes like the adjoining palace, from which the garden is separated by a new street. It has, however, at present a smiling appearance, and, like everything French, the characteristic is neatness and scrupulous cleanliness of walks, borders, and parterres. The constant use of the aforementioned syringing hydrants to flowers and grass maintains that healthy appearance on which visitors love to gaze. The blooming plants were principally very bright-coloured but rather dwarf Dahlias, *Chrysanthemums* (why cannot the gardening public of England and Ireland have early *Chrysanthemums* in August, September, and October, when there will be no danger of frost?) Tuberous Begonias, *Pelargoniums*, and smaller bedding stuff.

The Luxembourg Gardens.—These are hardly second to the last named in their extent, beauty of design, and the number of statues. The walks and flower beds are even handsomer, and

if nothing else were to be seen but its collection of five hundred Vines and Roses the visitor would be repaid. The fountains, basins, groups of statuary, and the magnificent style of architecture, not to mention the gorgeous contemporary paintings only second to the Louvre, would almost make one forget their botanical or floral interest.

Palais Royal.—The garden is rectangular, and in the centre military bands occasionally discourse sweet music. Around it is a well-kept leafy promenade, and on the side adjoining the Rue Rivoli (probably the finest street in Paris), along the covered-in verandah, are bazaars where one may reasonably buy almost anything. Cardinal Richelieu commenced this in 1639, and if he had a look at it now, except the fountain in the centre and the surrounding garden, he would have some difficulty in recognising it. Like so many of the finest public buildings in Paris, in 1871 the Communists burned the entire south wing. There are many other public and private gardens within the reach of the ordinary sightseer in the city, but we shall take next

The St. Cloud Gardens, the favoured residence of Napoleon III., and in which he received Queen Victoria in 1855. The statue terrace behind the palace, with the magnificent old trees and long expansive sweep of woodland, and the graceful flower parterres on each side, forms, it is said, one of the finest avenues in Europe. This may be said to be all that is left of this beautifully situated palace, for, except the blackened and charred walls, from which the screech of the owl alone is heard, all its glory is fled; enough remains on which to muse, perhaps "to point a moral or adorn a tale." One of the finest views of Paris can be had from the adjoining heights.

St. Germain.—This I lacked time to see, but was informed from one point of view, its chief attraction, besides its immense brick gloomy palace and surroundings, there is a terrace two miles long, which commands a splendid view of the valley of the Seine and its environs.

The Champ Elysées and Place de la Concorde.—Having still to copy a few notes in reference to the parks and cemeteries, and to conclude with Versailles, I can but briefly say that within the vicinity of both these—the first, the finest leafy promenade and the most brilliant, night or day, in Europe, and the latter the centre of the splendour of Paris—are some circular beds, generally having a fountain in the centre, artistically laid out in carpet fashion with peculiar devices, but I cannot say superior to Battersea or Victoria Parks in London or Phoenix Park, Dublin.

Bois de Boulogne.—This is the Hyde Park of Paris, the resort of aristocratic equipages and fashionable equestrians. The walks and drives are most tastefully kept, and turf, trees, and shrubs would form a desirable subject for a few hours' quiet walk or drive and musing study. Shaded alleys and retired walks can be found here as well as crowded thoroughfares; lakes, waterfowl, and even the marks of bullets on the bark of the trees. Strange, although the French climate is in advance of ours, the autumn appearance of the trees has not yet set in, except amongst the city Limes and Plane trees—the trees that appear to do best in the city of Paris as well as in the city of London.

The Buttes Chaumont.—The beautiful placid lake here, crossed by a gracefully constructed suspension bridge leading to a weird-looking craggy island cut out of the natural rock, is the special feature. It contains, it is said, nearly 60 acres, and cost about a quarter of a million to lay out. The rock is very steep, and is surmounted by the Sybil Temple with classic surroundings. The top is reached by winding and artistically constructed paths, with many very handsome flower plots. When you reach the summit you can survey on a bright day perhaps one of the most beautiful and animated panoramas in the world. Three-fourths of Paris and a hundred villages can be seen from this height—in fact, I was told the eye can take in a circumference of forty leagues.

The Parc Monceau.—This is the last of the many beautiful gardens and parks my limits will permit my noticing. The situation is very fine and convenient to reach, and it is to all appearance a most popular promenade and enjoyable retreat. During the last century of its existence it has undergone, like everything Parisian, many vicissitudes, passing from a banker to the Orleans, and then to the Napoleon dynasty, and ultimately in 1860 became public property. The garden is well deserving of special notice, as are the surrounding ruins, pyramids, cascades, rocks, and statues.

Cemetery of Père la Chaise, Montmartre, &c.—Although this beautiful "God's acre" has been the resting place, side by side,

of friend and foe innumerable (the guide told me it contained twenty thousand monuments alone), it is not old, having been given to the Superior of the Jesuits, Père or Father La Chaise, only in 1804. It contains 212 acres, rather highly situated, and commands an admirable view of the many surrounding scenes. The flowers and devices on the graves, the Yews, Cypress, and various evergreens, with the immortelles (among the rest one sent by Her Majesty on M. Thiers' grave), and many curious and unique contrivances to keep the memory of the departed green, go to prove that notwithstanding the gaiety of the people, there is still an abiding deeper feeling and perhaps a latent religious spirit. The plantations, walks, shady arbours, &c., are in the best taste. I come now to the last, but perhaps the most beautiful resort of all—

Versailles Palace and Gardens.—Like so many of the principal parks and gardens of Paris, this was laid out and designed by the celebrated Le Notre. After spending a day here we pause to collect our confused ideas and ask what has most astonished or surprised us. The enormous trees centuries old; the play of the fountains, admittedly the finest in the world, costing every time they play £400, and for which an American beside me said he would again cross the Atlantic to see alone; the statues, almost innumerable, any one of which would now-a-days make the fortune of a sculptor; the grottoes, cascades, lakes, vases, chaste flower beds, undulating and fantastic lawns and grassy slopes; but still more striking the quiet impressive grandeur and solemn sublimity that compel you to be silent while you admire. This applies even still more to the vast picture galleries of the palace. You gaze with mingled feelings of wonder and delight at the matchless paintings of David and De La Roche. But I shall not attempt what would be to me impossible, even a brief description *en passant*. Passing from those rich scenes I cannot do better than commend your readers to take the first opportunity of enjoying such treats, for a lifetime to be remembered.—W. J. M., *Clonmel*.

NOTES AND GLEANINGS.

MANY CHRYSANTHEMUM SHOWS are now pending. Amongst them we note Lambeth, and the North-Western (Camden Road) on the 11th; Putney, and Stoke Newington on the 12th; Brixton, and Dartmouth on the 13th; Walton on the 14th; Croydon, and Tunbridge Wells on the 15th; Borough of Hackney (Westminster Aquarium), Northampton, and Southampton on the 19th; Wimbledon, Ealing, Chelmsford, and Liverpool on the 20th; and Kingston-on-Thames on the 21st of the present month.

— WE are pleased to observe from a statement of accounts published by the SCOTTISH HORTICULTURAL ASSOCIATION that there is a balance in favour of the Society of £10 6s. 1d. The Association was instituted in March, 1877, its object being "the promotion and advancement of the science and practice of horticulture, and for the dissemination of a knowledge of such branches of natural history as are connected therewith." At the monthly meetings of the Society papers of great practical usefulness have been read, and the discussions that have risen thereupon have been highly instructive. Many new plants have been exhibited and adjudicated upon, and superior examples of cultivation have been recognised. Judging from the syllabus published for the session of 1878-9 much sound and valuable information is certain to be forthcoming on a variety of subjects, and we have no doubt that the Association, supported as it is by horticulturists and gardeners of admitted repute, will sustain its well-won reputation. The office bearers for the ensuing session are Mr. Malcolm Dunn, Dalkeith Gardens, President; Mr. Hugh Fraser, Leith Walk Nurseries, Vice-President; Mr. John Methven, 15, Princess Street, Edinburgh, Secretary; Mr. Alexander Milne, Leith Walk Nurseries, Assistant Secretary; and Mr. D. P. Laird, West Coates Nursery, Treasurer. Committees of special competency are appointed to adjudicate upon new plants, fruit, and vegetables, and the entire Association is in admirable working order.

— WRITING on the WHITE JAPAN ANEMONE Mr. Brotherston observes: "This is an extremely useful hardy plant, of purest white in the flower, and rivaling *Eucharis amazonica* as a cut flower. The finest flowers are produced on young plants, and these have the further merit of blooming later than old plants. The foliage is also useful for large vase-furnishing. It is of easy propagation by division, and extends so rapidly at root that I should imagine where left to itself for a few years it would be found to appropriate more than its own share of the border. October is the best time to take off

the root offsets, as dry weather is apt to set in before they are established when divided in spring."

— MR. C. T. WALLIS informs us that the following **SHRUBS AND PLANTS** were flowering during the last week in October in his garden in Surrey, which is fully exposed to the north:—*Arbutus*, *Antirrhinums*, *Berberies*, *Bluebells*, *Calceolarias*, *Chrysanthemums*, double *Daisies*, *Escallonia macrantha*, *Fuchsias*, *Hawthorn*, *Hollyhocks*, *Laurustinus*, *Leycesteria formosa*, *Mahonias*, *Michaelmas Daisies*, *Mignonette*, *Myosotis*, *Primulas*, *Pyrethrums*, *Pansies*; *Boursault*, *China*, *Hybrid Perpetual*, *Noisette*, and *Tea-scented Roses*; *Strawberries*, *Sedums*, *Sweet Williams*, *Tritonias*, *Tradescantias*, *Tropæolums*, and *Violets*.

— "We visited," says "S. H.," "a few of the **CHRYSANTHEMUM GROWERS** about Liverpool a day or two ago, and saw both plants and blooms very fine, particularly Mr. Bateson's and Mr. McIver's, both in Allerton Road. We noticed in Mr. Bateson's conservatory splendid blooms of the variety *Aurea multiflora*, and in Mr. McIver's grand blooms of *Eve*."

— AN American correspondent writing to us from Wisconsin states that the SEASON there has been one of the most unpropitious on record. His garden, he states, has been rendered quite profitless by the excessive rains. After the storms the sun was so powerful that it made the water so hot everything looked as if scalded. Potatoes, Carrots, Cabbages, Turnips, Tomatoes, Onions, and Currants—all were destroyed.

— "J. J." writes to us as follows on the **SULPHUR RECIPE FOR KEEPING FRUIT**. "I think anyone trying the receipt should do so on a small scale until they prove it. I have tried the plan recommended and find it has injured many Apples and Pears. Some have become quite soft all round to the depth of, say, a quarter of an inch, and others have become blotched and spotted, which entirely spoiled their appearance; and yet others done at the same time do not seem to be affected at all. I shall be glad to hear the result of other experiments. The recipe is not explicit enough—'two tablespoonfuls of sulphur in a box.' A box is a box, but one might be 2 feet square and another 2 yards square. The correct way would be to say how much sulphur is required to a cubic foot of space, and then we could give the plan a fair trial. I hope 'A KITCHEN GARDENER' will let us know how he succeeds."

— "H. E. A." communicates the following note on **SEEDLING BRIARS**:—"I can fully endorse the statement of the Rev. W. F. Radclyffe on page 332, that the seedling Briar rivals all other stocks used for working the Rose on. We have about five and a half dozen, which we received at different times direct from Mr. Prince of Oxford, for filling-up gaps in our Rose borders, and I can point them out to any person almost as far as I can see them from their dark green foliage, strong firm regular growth, and fine flowers. They throw few suckers."

APPLEY TOWERS.

APPLEY TOWERS, the seat of the Right Hon. Sir William Hutt, K.C.B., is situated a short distance from the neat and picturesque town of Ryde, Isle of Wight, and the road is itself also very beautiful, passing as it does most of the villa residences of the noblemen and gentlemen who stay there during the yachting season, and who keep their gardens gay with choice flowering shrubs and the usual summer bedding plants.

On entering Appley from the entrance lodge, which is a very handsome structure of the same style of architecture as the mansion, the house is speedily reached. It is a highly imposing building in the Tudor-Gothic style of architecture. The mansion, with the gardens and estate, have been all remodelled by Sir William since he purchased the demesne some six or seven years ago. The whole resources of architectural art and modern science appear to have been brought into requisition in finishing the building, which for completeness—ornament combined with utility—is altogether unique. At the east end of the mansion has been built a very handsome clock tower, something after the style of that of the Houses of Parliament at Westminster, the materials employed resembling those of the grand classical towers at Nice and Genoa. This rich and lofty tower greatly enhances the beauty of the entire building. There has also been added to the estate a model farm, complete in every detail, with a turreted water tower, which supplies the wants of the gardens and the estate generally. Gas also is made on the premises for supplying the estate, whilst the stables and other adjuncts are complete in every modern detail. From the mansion electric bells are employed for communication with the heads of each department, so that

the owner can have immediate communication with such when required; in fact, every department appears to lack nothing that art can produce.

Appley Towers is charmingly situated. Nature alone seems to have been profuse in her beauty there. The mansion being on an eminence commands extensive views of the sea stretching as far as Falmouth and along the adjacent coast, and the grounds have been so arranged as to show "Nature's pictures" to the best advantage. A sea wall is built for the protection of the property, and the whole pleasure grounds, extending over many acres, are laid out with judgment and taste.

Great skill has been exercised in their planting; but that, perhaps, which renders Appley the most interesting is the work of acclimatisation that is carried out on a scale unequalled perhaps in any other establishment in Britain. To this important work the proprietor devotes especial and personal attention, and in carrying it out he is ably supported by his painstaking gardener Mr. Sunbury. The results obtained cannot but be beneficial to horticultural science in general, for there is perhaps no department of gardening so little understood as that of acclimatisation. Amongst gardeners generally the predominating object seems to be that of coddling, but no protection is ever given to any plants at Appley during the winter. The list of plants we enumerate are such as have been proved perfectly hardy after two or three years of trial of them, while the good work is still progressing. Many hundreds of stove, New Holland, and Cape plants have been planted out this year, and have thrived so far very satisfactorily.

On entering the grounds from the orangery—which is in a line with the mansion and is 50 feet by 20, and well stocked with fine Orange trees, the roof finely covered with the red and white *Lapagerias* beautifully interlaced—the eye is entranced by a huge belt of *Hydrangeas* 5 or 6 feet high skirting a shrubbery, in full bloom on October 11th. This is easily seen from the principal drawing-room, from where the present view is taken; also beds of *Fuchsias* of the choice greenhouse varieties were very fine. *Eucalyptus globulus* is planted extensively, all of them having been raised from seed received from Nice and Algiers. Although only planted two or three years the trees have attained the height of from 20 to 30 feet. There is also the Peach-leaf-shaped *Eucalyptus*, which attains the height of 420 feet in its native habitat—Australia. *Araucaria brasiliense* quite luxuriates at Appley. Messrs. Veitch & Son sent Sir William a dozen seedlings in a pot for trial, and it is gratifying to record how well they have succeeded. Some of them are now 3 and 4 feet high. *Erythrina Crista-galli* had also been splendid, and the *Nerium Oleander* was grand, flowering profusely. *Abutilon* *Boule de Neige* flowers well as a hardy shrub, also *A. vexillarium*. *Habrothamnus elegans* had flowered twice; *Eriostemon*s, *Desfontainea spinosa*, *Correa Harrisii*, *Grevillea rosmarinifolia*, *Acacias longiflora*, *armata*, and *coccinea*, *Boronia serrulata*, *Genetyllis fuchsoides*, *Rhynchospermum jasminoides*, *Dasylium*s, *Aralia papyrifera*, *Dracena indivisa*, *Phormium tenax*, *Dicksonia antarctica*, *Alpholphia excelsa*, and the Breadfruit Tree (*Artocarpus incisa*), have all stood the test of full exposure.

Cassia corymbosa in beds 20 and 30 feet long, one mass of rich golden yellow, was a sight not easily to be forgotten. *Bouvardias* do well and flower most beautifully, as also do *Clianthus puniceus* and *magnifica*; to which we must also add another choice greenhouse climber, *Cantua dependens*. How seldom is it we see this lovely climber in our greenhouses, and yet what can be finer than its fine and charming rose-coloured racemes of flowers in the spring? Amongst choice flowering shrubs Indian *Azaleas* and several of the mollis section are planted out, and there is a fine collection of choice *Rhododendrons*, and many rare and beautiful *Aucubas*; amongst them *Youngii medio-picta* was very attractive.

The ends of the conservatory, a building 63 feet by 23, is finely covered with climbing plants. This house was undergoing cleaning and repairs during our visit; it is seen from the house, but it is the white and red *Lapagerias* planted outside that demand attention. They are both magnificent plants and produce their flowers in large clusters. These plants cover a large superficial area, and seem to delight in having full scope to display their floral wreaths. Outside in a narrow border were flowering profusely *Guernsey* and *Belladonna Lilies* and *Nerine Fothergillii*. At a short distance from the conservatory is a very beautiful aviary containing many rare species of parrots, &c. Many flowering plants and trees cannot be noticed, but we must not omit some of the following—*Myoporum parvifolium*, *Lomatias*, *Edwardsias*, *Banksias*, *Mag-*

nolias in variety, and all the greenhouse varieties of Veronicas quite 5 and 6 feet high. Myrtles are numerous and do well, the saline air seeming to agree with them admirably. *Iochroma grandiflora*, *Hovea Celsii*, *Metrosideros floribunda*, *Philesia buxifolia*, and the Guava (*Psidium Cattleianum*), probably the only acclimatised specimen in Britain, and *Poinciana Gilliesii* are all thriving well in the open air.

There are some huge beds of Camellias quite covered with buds and having remarkably fine dark green foliage. Sub-tropical bedding is done largely and embraces all the usual plants for such purposes. There are also some fine beds of Clematises, the figures being segments of circles, effectively planted; and contrasting effectively are such Conifers as *Araucaria excelsa*, *Cedrus Deodara*, *Wellingtonia gigantea*, from 30 to 45 feet high. For affording brightness and relief to the shrubs an ingenious expedient is resorted to. About five stakes 6 or 7 feet high are driven into the ground; these are encircled with wire netting, filled up with soil, and planted

with *Vesuvius Geranium* trained round the wire netting. These cones of scarlet flowers contrasting so well with the surroundings need to be seen to be appreciated. There are two flower gardens, one in front of each side of the mansion, which contain thousands of bedding plants, but on these I need not dwell.

The kitchen gardens and forcing houses are on the opposite side of the road. The glass is extensive. The first range is 120 feet long, divided into four divisions of 30 feet each; the first being devoted to Cape plants and a few cool Orchids, the second and third to Cucumbers and Melons, and the fourth is a propagating pit. The next range is of the same dimensions, and contains four vineries; the first being the early one, planted with Black Hamburg, Frankenthal, and Foster's Seedling; the second a Muscat house, which contained some very fine bunches, plump in berry and fine in colour; the third is a second Hamburg house; and the fourth contains Lady Downe's, Alicante, Gros Colman, Bowood Muscat, &c. Some

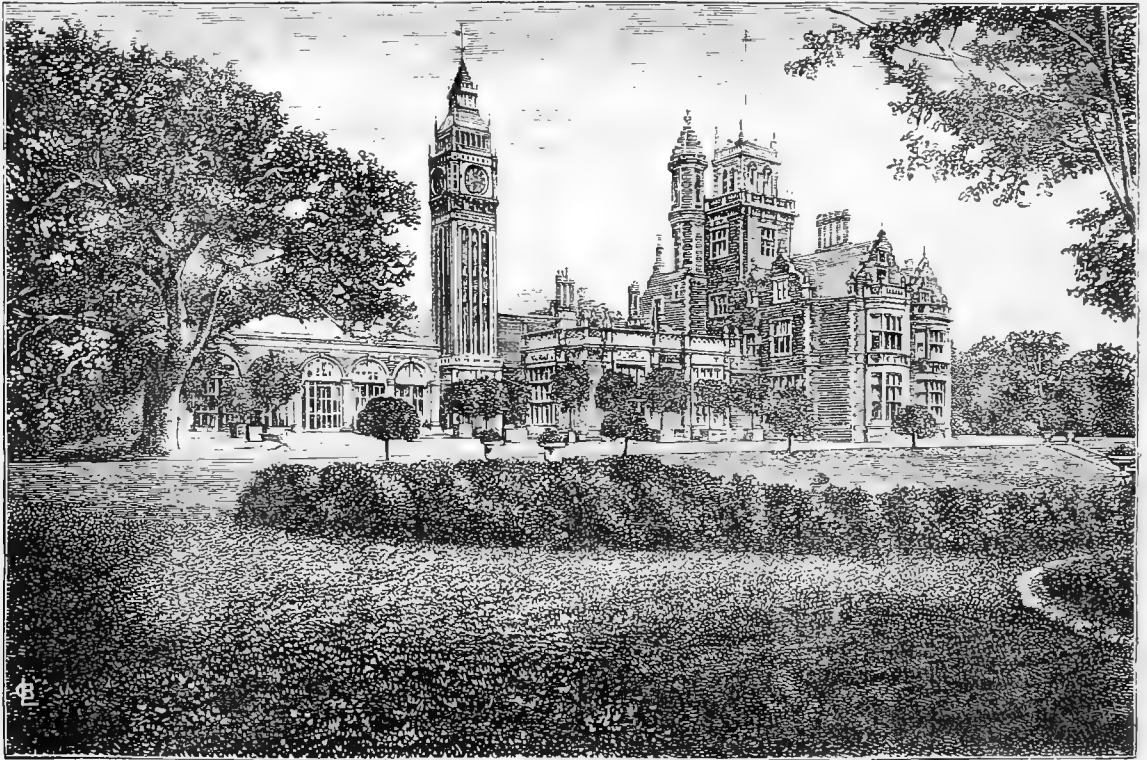


Fig. 55.—APPLEY TOWERS.

of the Bowood Muscats were especially good and spotless in colour; the wood was matured well, and the crop ample.

The next range is a set of span-roofed houses 120 feet long by 20 wide; the first being a plant stove 45 feet long, and contains the curious crab-footed plant, *Testudinaria elephantipes* (the female variety), also *Hedychium coronarium* with its white perfumed flowers, *Rondeletia speciosa*, Crotons, and the charming *Tabernaemontana coronaria flore-pleno*. Is it not a wonder we see this lovely plant in so few collections? The same may be asked respecting *Combretum purpureum* with its fine racemes of purple flowers, a colour rare in stove plants. *Gardenia Stanleyana* had flowers 7 inches long. *Vanda teres*, &c., all in excellent health and had made very good growths. The next division is a fruiting Pine stove, which contained good fruit of Queens and Smooth-leaved Cayennes on plants just sixteen months old. The last division is an intermediate Orchid house. These last three divisions are 25 feet long, and all are devoted to Orchids.

Six ranges of pits each 48 feet long are provided for growing and forcing vegetables, Strawberries, successional Pines, &c., and are admirably adapted for the purpose. About 1200

Strawberries were plunged in ashes. Vicomtesse Hericart de Thury, Keens' Seedling, and Sir Joseph Paxton are the sorts chiefly forced. A range of glass is on the top of the kitchen garden, 200 feet long, and divided into three compartments, is devoted to Peaches, one of the divisions being used as a cool orchard house for Apricots, &c.

The next portion of the kitchen garden, which is divided by a wall, contains a house 40 feet by 25, full of specimen Azaleas, Cape Heaths, Australian plants, with a *Maréchal Niel* Rose trained on the roof. Most of the glass has been recently erected. Wright's boiler has been lately adapted for heating purposes, and Mr. Sunbury speaks very favourably of it.

The kitchen gardens are well cropped, and their good keeping is in unison with the rest of the establishment. Fruit has not been very plentiful this year, nor does it ever seem in great abundance at Appley. Apricots scarcely ever produce a crop, perhaps this may be accounted for by the comparative absence of sun when most required in the autumn; neither are vegetables so early as might naturally be expected.

In concluding our notes on these gardens it is pleasant to record the confidence that exists between employer and employed, which is always advantageous to the well-being of every establishment. I had a rich treat at Appley, and I shall not soon forget the kindness of Sir William Hutt in

pointing out objects of interest and giving information where it was required.

Appley Towers, its grounds and gardens, afford remarkable evidence of good taste on the part of the proprietor, and the gardener, Mr. Sunbury, is to be congratulated on the excellence of his work in the several departments under his charge.—B. COWAN.

LASIANDBA MACRANTHA FLORIBUNDA.

I KNOW of few plants so gay with its large purple flowers and fine foliage as this. *Lasiandra macrantha* is well known, but is unfortunately straggling in growth and sparse in flowering; but the plant figured is dwarf in habit and floriferous. Under easy culture this valuable plant may be had in flower

from the end of October till the end of February. It is very useful in small 32-sized pots for various purposes of decoration. I have found it strike freely in the early spring—about the end of February—plunging the pots containing the cuttings in a house or frame having a temperature of about 60° to 70°; the cuttings also strike if placed loosely in cocoa-nut fibre. After they have rooted, which will be about the end of March, they should be potted singly and again plunged in heat until established. We shift them into their blooming pots and keep the plants in about the same temperature until May; they may then be removed to a pit or frame and kept rather close. They also enjoy a little shade in hot weather. About the first week in September remove the plants to where they are to flower if continued in the frame much later than that time they will lose some of their flower buds which are then formed; the



Fig. 56.—*LASIANDBA MACRANTHA FLORIBUNDA*.

foliage also will turn brown at the edges and spoil the appearance of the plants.

I find the plants flower well in a temperature of from 50° to 55°. If the house is kept rather dry it will suit them all the better. The soil I use for potting this *Lasiandra* is bright yellow fibry loam and peat in about equal parts, using plenty of silver sand. It is a plant that also requires a liberal supply of water.

Lasiandra macrantha floribunda was, I believe, first sent out by Mr. Bull, but it is now in general but too limited cultivation. Recently a fine batch of plants was flowering in Messrs. Veitch's Nursery at Chelsea, none of them exceeding 18 inches high, and every shoot producing four or five grand flowers.—J. PITHERS.

CHRYSANTHEMUMS IN LONDON.

AFTER a long period of well-applied labour and unremitting attention Mr. Newton has his reward in the attractive display

of *Chrysanthemums* in the Inner Temple Gardens. As usual the plants are arranged on the south border of the gardens, which is temporarily covered with glass, the front being protected with canvas. The border has been excavated so that the flowers are placed conveniently under the eye, and, sloping from the back to the front, the bank is highly imposing. It is about 50 yards long, 6 feet wide, and contains nearly five hundred plants. They are grown on single stems, and bear on an average about six blooms each. Mr. Newton grows all the best old varieties in cultivation, adding each year new varieties as they are produced. As a rule the new are no improvement on the old; such familiar sorts as Mrs. G. Rundle, The Beverleys, Prince Alfred, Jardin des Plantes, Vesta, Dr. Sharp, White Globe, King of Denmark, Progne, and the small but useful *Julie Lagravère*, are as attractive as ever, while of the Japanese varieties *Elaine* is still unsurpassed for pure chaste beauty. Amongst the newer *Chrysanthemums* one of the richest of all, *Refulgence*, will never become popular on account of its glaring yellow eye. M. Lucien Barthière, a

small, close, imbricated flower, is very rich—just the colour of the crimson velvet of good French Marigolds, with bright yellow tips. It is useful for decoration but not for exhibition. The same may be said of Comte de Ranzau, very dark, and Mount Etna. Gloire de Toulouse (Japanese), is a fine dark purplish rose flower; Cri Kung, pure rose, is also good; and La Nymph, a small satiny rose, is very chaste.

By the kindness of the benchers of the Honourable Society of the Inner Temple the gardens are open to all, and Mr. Newton is to be congratulated on the excellence of the display.

BOTTLING FRESH FRUIT.

IF "A PUZZLED HOUSEWIFE" will try the following plan for fruit such as Gooseberries, Cherries, Raspberries, Currants, Damsons, &c., she will not fail to succeed, as I have used it for some years, and the fruit keeps well and is as good as when gathered.

Fill clean wide-mouthed bottles with the fruit. Pour nearly boiling water into the bottles slowly up to the neck, or as much as will cover the fruit. The water must have alum dissolved in it to the proportion of one drachm to four gallons, or fifteen grains per gallon. Let them become cold: fill the bottles up with some more of the alum water warm; then bung them up, place them up to their necks in a copper of water or iron pot, with hay to keep them in position, and bring them up to the heat of 176°; then take them out and bladder them, and seal the bladder if greater security is wished.—E. S. S., *Dudbridge*.

THE WARS OF THE ROSES.

I AM glad to see that the little wars of the Roses have come, apparently, to a termination. "WYLD SAVAGE" undertook a rather invidious task in attempting to assign relative positions to the leading amateurs, and it would be much better if any remarks which might become a *casus belli* amongst rosarians were avoided. I look upon the extreme—I may almost say the utter *abandon* of good fellowship that exists among the devotees of the Rose, as by no means the least of the many pleasures incidental to Rose-growing and Rose-showing; and I venture to express a hope through your columns that the little volcano which has lately sprung up in our ranks has now become, not dormant but, extinct.—A. G. S., *Ingham*.

DRESSING FLOWERS.

MR. DOUGLAS'S statement about dressing a stand of Hyacinths having been more than once referred to as if it were a fact, allow me to say that it is utterly incorrect. I saw the stand before he touched it. I saw him doing it, which consisted simply in lifting up the bells. I saw the flowers staged on the occasion, and I have no hesitation in saying that had he never touched them they must have won, as being by far the best shown; and I very much question whether the formality introduced into them by the dressing did not rather spoil than benefit them, but at any rate it had nothing to do to their obtaining a prize.—C.

NOTES ON VILLA AND SUBURBAN GARDENING.

LAWNS, walks, and pleasure grounds now require more than ordinary attention. Leaves are fast falling, and must be cleared away. If possible, choose dry weather for sweeping, for both lawns and walks will present a cleaner and better appearance than when swept during wet weather. Leaves are very useful for mixing with long stable manure for making hotbeds, or the forcing of Seakale and Rhubarb. Oak and Beech leaves are decidedly the best, giving more heat and lasting longer than those of the Horse Chestnut, Elm, or Lime, although these will be found useful, and must not be rejected. After the leaves have been collected, both lawns and walks will be greatly improved by a thorough rolling. The borders should be edged and the beds dug over, carefully burying the leaves, or they will prove troublesome and be wafted about by every wind that blows. Much of the beauty that is attached to pleasure grounds during the summer months is wanting now. Order and neatness must take its place; and it is only by turning the beds, having neat edges and well-kept walks, that this can be done. A few flowers yet linger in the herbaceous or mixed borders. The various-tinted Asters or Michaelmas Daisies, the white and pink varieties of the Irish Heath (*Menziesia polifolia*), the tiny but bright blue-flowered

Lithospermum prostratum, the Daisy-like *Vittadenia triloba*, and *Chrysanthemums* are all attractive; while amongst the evergreen shrubs the *Arbutus* tree is now conspicuous with its hanging clusters of pure white and ruby-tinted flowers contrasting with bunches of ripe golden fruit. We never remember seeing the *Arbutus* so profusely bloomed and berried as it is at the present time. In most places the grass has grown freely during the mild weather, therefore it may be found necessary to use the mowing machine on a dry day, after which the machine should have a thorough cleaning and be laid up for the winter; or if through constant use it has become out of repair, the present is a good opportunity of sending it to the makers to be re-adjusted.

Besides the above-mentioned smaller items connected with the outdoor duties of a garden, the present time is suitable for the more important work of removing, transplanting, and renovating clumps and borders of mixed hardy shrubs. Often in forming new villa gardens shrubs are at first planted too thickly, with the view of immediate effect; consequently, after they have made a few years' growth the shrubs spoil each other. In such cases it is best to lift all that are not too large for removal, and to transplant them in some more important position. In the case of very large shrubs we have found it advisable to cut around the roots during the summer, that they may now be the more successfully transplanted in suitable quarters. In transplanting shrubs of all kinds experience has taught that they make the most rapid progress in ground that has been well trenched and kept clean, and free from weeds afterwards, until the shrubs are well established. A very frequent mistake often made in small places is that of planting choice *Coniferae* close to buildings or very near the edges of walks, and after a few years it becomes necessary either to divert the paths or subject the specimens to the very barbarous system of lopping the lowermost branches. The character of the plant should be known before planting, hence the necessity of employing experienced persons. In planting single specimens, always make the holes considerably larger than the space required to receive the roots, well breaking up the bottom and sides with a long-pronged fork. In poor gravelly soil we have often been obliged to remove the gravel and replace it with better soil, but it is remarkable how most shrubs will thrive, even in a poor gravelly soil, if it is thoroughly broken up beforehand. Masses or clumps of mixed shrubs are highly attractive the whole year round, especially when there is plenty of flowering plants introduced, such as *Lilacs*, *Deutzias*, *Philadelphuses* (Mock Orange), *Spiraeas*, *Ribes*, *Laburnums*, *Rhododendrons*, *Kalmias*, *Azaleas*, *Cratægues*, *Berberis*, &c., interspersed with them. *Portugal Laurels*, the common *Laurel*, *Yews*, variegated and other *Hollies*, *Box*, &c., are suitable for the background, and the dwarfier and closer-growing plants in front. Many of the *Euconymuses* are attractive from their glossy green or variegated leaves; especially well do these thrive by the seaside. *Negundo fraxinifolium variegatum* may be freely introduced with good effect; while some of the *Magnolias*, especially *conspicua*, are highly attractive while in bloom. Among the smaller-growing *Coniferae* are some dainty plants of *Retinospora plumosa* and *R. plumosa aurea*, *R. filicoides*, *R. obtusa aurea*, *Thuja aurea* and *elegantissima*, *Thuja borealis variegata*, *Cupressus Lawsoniana erecta* and *gracilis*, *Abies polita*, and many others. *Wellingtonias*, *Cedrus Deodara*, *Piceas Nordmanniana*, *Pinsapo*, and *nobilis* may be planted singly where there is plenty of room for them to develop their rapid growths. Stake every specimen securely that is likely to be blown about by the rough winds which may prevail as soon as the newly-shifted plants begin to emit fresh rootlets, when much injury is done. The above remarks apply with equal force to newly-planted fruit trees; but care must be taken in staking these and all deciduous trees that the stake is not put so close to the stem as to chafe the bark, which should be protected with a piece of leather or other soft material.

Briars for next year's budding should be planted at once. Many of the rough gnarly old roots require cutting off clean and smooth. Plant them about a foot apart in rows and 2 feet 6 inches between the rows, where they should remain to be budded next summer. Orders should also be given at once for Rose trees required from the nurseries, for there is often a great run on many of the varieties, and when orders are given late the best plants have all been chosen and sent away. Plant those worked on the Briar a similar depth to what they have been already growing in, but dwarfs worked on the *Manetti* should be planted below the union. A selection of the best varieties may be easily obtained by referring back to the election so recently given by the kindness of Mr. Hinton; as a general rule the Roses that take the foremost rank there are the best garden Roses. Order quickly, plant quickly, and plant in rich, deeply dug, and well-manured soil.

Where *Chrysanthemums* are grown well conservatories will be very gay; in fact, we have recently seen several structures, and we consider them gayer now than at any time during the whole year. Damp is the greatest enemy now to the *Chrysanthemum*, and must be guarded against. In unheated houses the moisture condenses on the roof and afterwards drops on the flowers, therefore air must be given as early as possible to dry the house and preserve the flowers. Many of the Japanese varieties are

extremely curious and beautiful, and some of them, being late openers, are additionally useful.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Sowing Peas.—A first sowing may now be made upon a south border. William I. is the best of the early Peas, First and Best being excellent, Sangster's No. 1 (Daniel O'Rourke) though somewhat later is an admirable cropper, and Ringleader (syn. First Crop) is valuable for its earliness. Harbinger is, however, the earliest of all, and where very early Peas are in request it may be sown about 3 feet 6 inches from a south wall and parallel with it; or it with those approved may be sown cross-wise of the border in rows 3 feet apart. We, however, sow in rows 4 feet apart, having Lettuces planted between the rows as stated in a former calendar. For sowing in front of south walls, 12 to 15 inches from the wall, Unique, Blue Peter, Premier Gem, Beck's Gem (Tom Thumb), and Little Gem are all good. In sowing Peas it is necessary to take precautionary measures against mice. We moisten the Peas with water to which a table-spoonful of paraffin has been added to a gallon and thoroughly mixed. Whilst the Peas are wet we coat them with red lead thoroughly before sowing, and though we are overrun with rats and mice owing to the proximity of game covers, we find the Peas are safe from those vermin and pheasants. The Peas are just covered with soil, and then with sifted ashes about an inch or so deep, which assists in warding off the ravages of slugs. A first sowing of Broad Beans may be made upon a warm border. Beck's Gem is a good, dwarf, early sort; Early Mazagan is only desirable for its hardness, Early Longpod being preferable to it; Seville Longpod is earlier than other forms of Longpod, but none are so hardy as the Mazagan. We treat the seed the same as the Peas, covering about double the depth. We would urge the desirability of removing the yellow and decayed leaves from all the crops of Brassicas that are intended to stand the winter, so as to admit air to the stems and harden the growth before severe weather sets in. Draw a little earth to the stems of early Cabbages so as to keep them steady against winds.

The pricking-out of Cauliflowers under the protection of a wall must not longer be delayed; the small plants remaining of the August sowing after planting in frames or handlights will, if the winter be not unusually severe, be found useful for transplanting in spring. Lettuces may also yet be planted at the foot of walls.

Forcing Department.—If new Potatoes are required very early, and there is convenience for growing them in light situations near the glass in heated houses or pits, sets may now be inserted singly 3 or 4 inches deep in efficiently drained pots filled to within an inch of the rim with two-thirds of turfy loam and one-third of leaf soil or thoroughly decayed hotbed manure. Early lifted tubers should be selected for this purpose and those that have commenced sprouting. Veitch's Ashleaf and Myatt's are the best. They may be placed in any house where there is warmth until the growths appear above the soil, when they must have light; a vinery or Peach house at work having suitable temperature, or any light airy house or pit with a temperature by artificial means of 50° to 60°, will answer. A 9 or 10-inch pot will be suitable for one set, but three sets may be inserted in 11 or 12-inch pots. Peas of the dwarf kind are sometimes forced, but unless there is plenty of accommodation, as that afforded by Peach or orchard houses, they do not afford satisfactory returns. They may be sown now in 10-inch pots filled with good loam, a double row inserted an inch from the side and covered an inch deep. They cannot have too much light and air, 50° being quite high enough for them in dull weather. French Beans should be sown for succession, keeping those more advanced as close to the glass as possible, feeding those in bearing with weak liquid manure. Maintain the supply of Mustard and Cress by frequent sowings.

FLOWER GARDEN.

Frosts have blackened the Dahlias in some parts. Where this is the case cut off the stems about 9 inches from the ground, and the roots may be lifted and placed upside down in a shed for a few days for superfluous moisture to drain off, and then be plunged in moist sand in a cool place, where they will be safe from frost. If the weather be mild they may be left in the ground as long as possible, especially those from cuttings in spring, it being a great mistake to keep the tubers so dry as to induce shrivelling. Marvel of Peru roots also should be taken up and treated in a similar manner; Cannas, Tritonias, Tigridias, and other tender roots may be left in the ground if the bottom be dry, and be covered with sifted coal ashes in the form of a cone to ward off wet and frost, but if the site is at all wet the Cannas should be lifted and stored away in sand safe from frost. Tuberous-rooted Begonias often winter safely in the ground if it is well drained and a covering of ashes is given, which is better than cocoa refuse and leaf soil, which worms delight in; and birds in turn, having a great liking for the worms, clear away the material from the crowns, but ashes they do not interfere with. If the soil be wet take up the tubers and store them away in moist sand in a place safe from frost. A

covering of ashes over the bulbs of choice Lilliums is desirable, formed cone-like to throw off the wet and to afford protection against frost. The planting of bulbs may still be proceeded with, but the sooner it is completed the better.

FRUIT HOUSES.

Vines.—These for affording fruit in April must now be started, whether they be in pots or planted out. Bottom heat in neither case is indispensable, though in all forcing operations it hastens growth considerably; therefore, plunge the pots in a bed of fermenting materials as before advised, suspending the rods in a horizontal position over the fermenting materials to insure a regular break. Syringe three times a day, keeping every part of the house moist by sprinklings in bright weather. Vines started at this season require a higher temperature to excite the buds than those started later. A temperature of 55° to 50° at night and 60° to 65° by day will not be too much to start with. Those planted out should have the inside border thoroughly soaked with water at a temperature of 90°. The border or floor of the house should if convenient be covered 2 feet deep with leaves and stable litter in a state of fermentation, occasionally turning over the material, as the moist ammonia-charged heat given out is very beneficial to the Vines. The outside border must be attended to as to warmth and covering from heavy rains. The Vines in houses for starting in December should be pruned at once, as it contributes to early and complete rest. In pruning two eyes are ample for affording useful bunches, but if large bunches are wanted longer pruning may be practised; yet what is gained in size of bunch is lost in size of berry, compactness of bunch, and good finish. Remove dead and decaying foliage from the Vines where ripe Grapes are hanging, and look over the bunches frequently for decayed berries. Any Vines not yet hard and brown in the wood should be kept closely stopped, fire heat being still applied accompanied with free ventilation.

Cucumbers.—Maintain a night temperature of 70°, a few degrees less in severe weather, advancing to 80° and 85° with sun heat. Admit a little air at the top of the house whenever the weather is favourable, but it must be done without lowering the temperature, it being better to shut-off the top heat for an hour or two when the sun is powerful than to admit air when the winds are very cold. Moderate ventilation is, however, beneficial in carrying off steam, &c. The syringe may be laid aside except for damping the paths, walls, &c., in the morning and afternoon in warm bright weather, keeping the evaporation troughs filled with liquid manure. The water given to the roots must be of the same temperature as the house, as also must the soil that is added to the beds. The autumn fruiters being now in full bearing must not be overcropped, therefore remove the fruit when it attains a fair size, also all deformed fruit. Go over the plants at least once a week for the removal of bad leaves, and for stopping and cutting away superfluous growths. Let the winter fruiters advance well up the trellis before stopping them, training the side growths afterwards at right and left angles from the main stem. Allow few or no male blossoms nor tendrils, removing them as fast as they appear, and add fresh-warmed soil as often as the roots have fairly covered the surface of the bed.

Pines.—Liberal ventilation should be afforded to houses or pits containing young plants whenever the weather is favourable, and avoid damping, as keeping the houses constantly saturated is more injurious than otherwise. Water will not now be required frequently, yet the plants must be examined every ten days, watering such as require it, as too great dryness is more prejudicial than is commonly supposed. In the fruiting department lose no opportunity of closing the house at 85°, keeping the night temperature at 70°, or a few degrees less in cold weather. Remove all the superfluous suckers, retaining one only, the best on each plant. Suckers on successional plants that appear before the fruit is visible should be removed, except an increase of stock is urgent. At this time of year it is usual to make new or replenish the beds of fermenting material for the young plants. Tan is unquestionably the best material; a good substitute being found in Oak or Beech leaves, which should now be collected as dry as possible. In forming beds of leaves they should be firmly pressed; tan, on the other hand, should be placed lightly together.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense. Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (W. E. K.).—The "Greenhouse Manual," published at this office (post free 10s.), contains instructions on the cultivation of greenhouse flowers. (J. T. A.).—We cannot recommend a more useful moderately priced

hook for the purpose you require than the "Cottage Gardener's Dictionary." The cultivation of all the crops you name and many others is given fully and practically, as also are the propagation and culture of all useful fruits and popular flowers. The book can be had from this office, price 6s. 6d., or 7s. 2d. post free.

PLANT COLLECTING (J. C.).—A thorough knowledge of plants is necessary by a collector. We can only advise you to state your requirements and qualifications to some of the leading nurserymen.

VINES INFESTED WITH MILDW (North Wales Fruit-Grower).—There is no question of the efficiency of flowers of sulphur applied upon the first appearance of the parasite. The Grapes cracked and spotted when they began to colour because the atmosphere was too moist and close. Freer ventilation with brisk firing, and the coating of the hot-water pipes with flowers of sulphur brought to the consistency of cream with skim milk, would have produced an atmosphere unfavourable to the fungus. As the leaves fall burn them, and when all are fallen prune the Vines, strip off the loose bark, consigning it and the pruning to the flames; thoroughly clean the wood-work of the house with soap and water, the glass with water only. Wash the Vines with a solution of soft soap (8 ozs. to the gallon), removing the top 2 or 3 inches of the border, and limewash any wall surface. If necessary paint the wood and trelliswork, and then dress the Vines with a composition of 1 lb. of soft soap to half a gallon each of water and tobacco juice, adding equal proportions of fresh-slaked lime, flowers of sulphur, and soot to bring it to the consistency of cream, applying with a brush to every part of the rods. If the border be efficiently drained and the roots near the surface replace the removed surface soil with fresh turfy loam, adding about a twelfth part of charcoal moderately small, and a twentieth each of half-inch bones and wood ashes; but if the drainage be defective rectify it, and if the roots are deep raise them carefully to within about 6 inches from the surface in the fresh material. Mulch the border with about 6 inches of fresh litter, and if convenient cover it with hot dung and leaves three weeks before commencing to start the Vines into growth. We think the principal cause of the mildew is too close and moist an atmosphere, induced by a deficiency of ventilation.

LIQUID MANURE FOR GREENHOUSE PLANTS (D. W.).—The time to fill a cask with liquid manure is when you require to apply it, but it must not be applied without discrimination. As a rule softwooded plants advancing for flowering, the roots being confined to small pots, only require rich stimulants. Guano at the rate of 1 oz. to the gallon of water is sufficient, and may be made as required. The drainings of the stable or stable manure are too uncertain in strength to admit of any approximate estimate of the dilution required, and should not be used for plants in pots; but for crops in the open ground stable drainings diluted with six times the quantity of water, and drainings from a dunghill used pure, are very valuable. Fowl and pigeon dung make good liquid manure—1 peck to 30 gallons of water, well stirred up before use. Soot also at the same rate is a capital stimulant.

GLAZING WITHOUT PUTTY (J. H. L.).—We know of houses constructed upon the principle you name, and they answer perfectly, there being little leakage or breakage of glass.

GREENHOUSE FLUE NOT DRAWING (P. S.).—The flue is too narrow. It ought to have been 10 inches deep and at least 7 inches wide; and the chimney, instead of being 4 inches in diameter, should have been 5 inches. That, however, is not the cause of there being no draught; but supposing there had been a draught the flue and chimney would soon from the accumulation of soot have become choked. We apprehend that the flue is on a level with the furnace, though you show in the sketch a slight rise. The furnace, we presume, has an ashpit as deep as the height of the furnace, and extending the length of the grate and its width. If the bottom of the flue be on a level with the top of the furnace or nearly so, the flames and products of combustion have a clear rise of two-thirds the height of the furnace into the flue, it will draw so as to require a damper to regulate the draught, the flue having a gentle rise to the chimney.

UTILISING DEAD LEAVES (G. M.).—Decayed leaves are very valuable for all soils at all strong and deficient in humus. Fallen leaves are highly worthy of being gathered and employed as litter for cows and pigs, for when trampled to decay in such positions they form an excellent manure for most farm and garden crops. Soils to which they are not adaptable are those that are already light and rich by having had heavy dressings of decayed vegetable matter for many years.

HARDY VINE CULTURE (J. J.).—Plant the Vines in rows 5 feet apart and train the canes to single stakes 4 feet high. That is the way they are treated at Cardiff Castle. The stakes should be put to them immediately the growth is long enough to need securing, and the canes should be stopped at the top of the stakes. As to pruning, the first year there will only be one cane to cut back, and this should be cut down to three or four eyes from the bottom. When these eyes start into growth the following year the cane from each should be secured to the stake and be kept stopped at the top as before. In pruning them in the winter each cane may be cut down to a single eye, or two at the most, and when these begin to grow only four canes should be taken up as before, and as each of these canes produces two and three bunches a very fair crop is the result. This mode of pruning should be repeated annually. If your locality is exceptionally favourable you could easily try a few Vines on the west wall; they, however do not usually succeed on that aspect.

TEBBS'S UNIVERSAL STOVE (Poole).—Mr. Tebb's address, as advertised in the Journal of October 24th, is 98, Cheapside, London. The price of the stove varies according to size.

PYRUS JAPONICA (Arthur T. Webb).—The fruit is perfectly wholesome, and you may make marmalade of it in the same way as that of the Quince.

CHRYSANTHEMUM BLOOMS (James Brown).—We do not know of any nurseryman who would supply you with "Chrysanthemum blooms fit for showing." Why don't you grow them yourself if you want them for showing?

CHRYSANTHEMUM SHOWS (W. W. B.).—You will find a list of the shows now pending in another column, and the Secretaries' names, so far as we know them, in our record of coming shows.

PRIVET HEDGE (Subscriber).—The common Privet is suitable for a hedge, so also is the Japanese Privet, but it is much more expensive. When Thorn Quick is mixed with the Privet it seldom succeeds well, the Privet generally overgrowing it, and the Quick dwindles away. About three good Privet plants to a yard will form a good hedge, which may be planted at any time from November to March.

CAMELLIAS CASTING LEAVES AND BUDS (J. W. C.).—The cause is generally defective root-action, which may have been induced by a deficiency of water at an earlier date, by an excess of water at the roots, or by defective drainage, resulting in a sodden soil inimical to the health of the roots, which we apprehend are in an unsatisfactory state; but in the absence of data it is not possible to do more than hazard an opinion.

WHITE SCALE ON TACSONIA (Idem).—As you have tried many "cures" without effecting a riddance, we name one that with us is infallible, but it must not be applied to the leaves, but only to the stems with a brush. Half a pound of soft soap to half a gallon of water, to which is added a wineglassful of spirits of turpentine, thoroughly mixed.

ROSE BUDS NOT OPENING (Tyro).—The only thing required is more favourable weather combined with the plants not being allowed to carry too many flowers. Disbudding must be resorted to when fine blooms are wanted, but some lose sight of this, expecting perfect blooms irrespective of the vigour of the plants and the number of their flowers. Disbudding often makes all the difference between good and imperfect blooms.

MANURE FOR POTATOES AND TURNIPS (E. L. R.).—The best manures are farmyard dung at the rate of from 12 to 20 tons per acre, applying that for Potatoes in autumn or early spring, unless the ground be poor, when it may be applied at the time of planting, supplementing it with guano at the rate of 2 to 4 cwt. per acre. Phospho guano may be applied at the same rate. Dissolved bones or bone manure is the best manure for Turnips, applied at the rate of 2 to 4 cwt. per acre.

NEAPOLITAN VIOLETS IN POTS AND FRAMES (Violet).—Take up the plants at once with balls of earth attached to the roots, removing no more than the loose soil, and pot in rich soil, the pots being plunged to the rim in frames, or they may be placed upon shelves near the glass, be kept well supplied with water, and have air abundantly. The plants will flower well through the winter, frost being excluded. If planted in frames employ rich soil, and admit air freely whenever the weather is favourable.

PLANTING MARECHAL NIEL ROSES (A Lover of Rose Shows).—Presuming you intend to plant the Roses against walls, now is as good a time to do so as in March, protection being given to the shoots almost as readily as when the plants are laid in by the heels. If for planting in the open, which is not advisable except in very warm situations, planting would be best deferred until March. The plant against the wall facing west would be better if the pit lights leaned against it, and should be done now, so as to assist in ripening the wood by warding off rains and retaining heat.

ROSES, APPLES, AND PEARS FOR EXPOSED SITUATION (Jas. D.).—Roses: Alfred Colomb, Charles Lefebvre, Baronne de Rothschild, Madame Victor Verdier, John Hopper, La France, Lord Raglan, François Courtin, Sénateur Vaisse, Thomas Mills, Marquise de Castellane, Annie Laxton, Baronne Louise Uxkull, Bessie Johnson, Boule de Neige, Comtesse d'Oxford, Leopold II., Général Jacqueminot, François Michelon, Duke of Edinburgh, Dupuy Jamain, Marechal Vaillant, Madame Lacharme, and Thomas Methven, all Hybrid Perpetuals. Of Bourbons—Baronne Gonella, and Sir Joseph Paxton. Tea-scented—Gloire de Dijon. Apples: Dessert—Irish Peach, King of the Pippins, Cox's Orange Pippin, Margil, Reinette de Canada, and Sturmer Pippin. Kitchen—Lord Suffield, Cox's Pomona, Cellini, Golden Noble, Dumelow's Seedling, and Hambleton Deux Ans. Pears: Jargonelle, Williams' Bon Chrétien, White Doyenné, Comte de Lamy, Beurré Superfin, Marie Louise, Thompson's, Beurré Diel, Beurré Bachelier, Durondeau, Jean de Witte, and Bergamotte Esperen.

VIOLETS DISEASED (G. F.).—We have carefully examined your Violets, and find that the disease with which they are attacked is caused by a fungus called *Polyomyces Viola*.

CALCULFLOWER (J. J. L.).—We think you can obtain what you require from any seedsman advertising in our columns.

PROPAGATING LAVENDER COTTON (S. J. B.).—Insert the cuttings now in sandy soil in a cool frame, or preferably, perhaps, in gentle heat in spring.

NAMES OF FRUITS (M. G.).—1, Royal Russet; 2, Blenheim Pippin; 3, Royal Pearmain; 4, Golden Pearmain; 5, Brownless Russet; 6, not known. (C. R. S.).—Apple, Golden Pippin; Pear, Beurré d'Aremberg. (Ruffhams).—Formosa Nonpareil. (R. W.).—The Apple is Sops-in-Wine; we do not think its cultivation is confined to any particular district. (J. W. Lawrence).—Rousslet de Rheims.

NAMES OF PLANTS (G. M. U. C.).—Schizostylis coccinea. (W. W.).—Tropeolum pentaphyllum. (W. D. A.).—Ipomaea Quamoclit. (W. H. G.).—1 and 2, Scolopendrium vulgare vars.; 3, 4, 5, Athyrium Filix-femina; 6, Trierythra hirta. (—).—The scarlet flower is Cactia coccinea, the Composite Aster multiflorus. (C. F.).—Bryophyllum proliferum. (Connaught Subscriber).—The name of the shrub is, we think, Elaeagnus reflexus. (J. B. P.).—Cotoneaster serrulata. (G. K.).—The name of the shrub we were last week unable to identify is, we now find, Andromeda formosa. (J. C.).—Arbutus Unedo, the Strawberry Tree. (A. R. F.).—Coronilla Emerus.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

THE MANAGEMENT OF YOUNG CATTLE.

THE rearing of calves, as described in our article on the 23rd of May last, gave in detail the system pursued up to the time when the animals become as they are usually termed yearlings, or twelve months old. It is our purpose now to pursue the subject up to the time the animals are sold to the butcher or taken into the dairy as milch cows, which in either case may be accomplished with the most advantage at from twenty-four to twenty-seven months old. We propose to refer to the subject under two separate headings, each of which may, however, require subdivision. We will first allude to yearling steers intended to be fattened in the pastures or nearly so, and then give the method of feeding

entirely in the boxes or stalls. We will suppose that the steers become yearlings about the 1st of February, and they will require to be fed until the month of May, and treated as they had been since the month of October previously—that is, that they should be accommodated in a dry sheltered yard and roomy shed, the yard to be floored with earth or burnt clay and ashes about 8 or 10 inches in depth, the shed to be floored with the same material, but raised by several inches higher than the yard, so that the animals after the yard and shed have been littered with straw as cleanliness requires, may lie high and dry at all times in the shed. The shed, too, should be fitted with mangers 2 feet wide and 2 feet deep with divisions, and capable of holding fodder, such as chaff, cake, &c., as well as roots; and in order that the steers may feed without disagreeing we like to divide the shed and yard, with three or four rails, into pens for two, or at the most three animals, with 12 feet by 12 under cover free of the feeding path and manger, and 15 by 12 feet outside. In this way the animals always have the benefit of sufficient air and exercise to fit them for their future existence in the pastures during the next summer. The yard in front of the shed should be lowest on the outside, so that any excess of rain may pass away instead of keeping the pens wet and cold. In this way litter will be economised, whether it consists of clean straw, fern, or rushes. As the manure will be allowed to accumulate, soft sand or ashes should be strewn over the pens every other day, which will consolidate it, and improve the manure by keeping the pens drier both under cover and outside, and will effectually prevent any fermentation of the accumulating dung, which may then be allowed to remain until it becomes inconvenient or is required for use on the home farm. This course of management in the yards and sheds will be continued until about the 1st of May, at which time in ordinary seasons the grass land, if it is rich enough to fatten or partially fatten cattle, will be ready, for, unlike short feeding for dairy stock, it is essential that there should be a good bite of grass before the steers are turned in, and for a few nights before entirely leaving the sheds they should return in the evening and receive there the cake with mangolds mixed; but when they lie out in the pastures night and day it is a question of situation, for if the meadows are low without any high and dry brows for them to lie upon at night it is well to remove them from the low meadows, particularly if they are below the fog level, into a high and dry pasture, and there to receive their artificial food, as few pastures are rich enough to fatten the stock without it.

The method of giving the artificial food is of consequence, because some farmers merely place the cake in little heaps on the pasture and allow the cattle to pick it up clean, which they will do and eat the grass with it down to the bare ground; but it is a slovenly way, and we prefer to put the cake, &c., mixed with cut mangold into troughs, move them daily, and turn the troughs upside down when empty to keep them dry until the next feeding time. In giving artificial food a mixture of linseed cake and bean meal, or otherwise decorticated cotton cake (which does not require so much meal mixed), will answer a good purpose. On first going into the grass about 2 lbs. of cake and 1 lb. of bean meal mixed with about 10 lbs. of mangold for each bullock will be sufficient. The mangolds should be quartered into the cutter, the roots then will, after being passed through the Gardener's turnip cutter, come out in short pieces and well adapted for the meal and cake to adhere to. When eaten in this way it is done without waste and without scouring the cattle, as at this time of year the mangolds are ripe and in good order for feeding, and should be with care preserved for this purpose until midsummer, or at any rate until the early crops of roots, such as early turnips, cabbages, &c., are ready for use. This mode of feeding may be continued until the month of October, but as the grass becomes poorer in August and September the cake and meal may be gradually increased up to 4 lbs. of cake with meal 2 lbs. per day for each bullock. This will be necessary even where the grass land has been fed judiciously—that is to say, with some pastures laid up without feeding to get fresh, or with a constant change to fields of good grass. After being managed thus we expect them to have made good proof, and have continued in good health, barring any epidemic complaint like pleura or foot-and-mouth disease. We have particularly referred to the night lying of the animals in order to avoid if possible the black-leg or quarter-ill, which such young and thriving animals are liable to, although steers do not suffer from it so much as heifers under two years old. The mode of feeding also with mangolds and cake is especially adapted, being of a laxative nature, to prevent blood poisoning; the origin of the complaint is often accelerated, however, by lying in low, damp, and foggy places. During the first week of October we bring the steers to the home-stead, placing them singly in stalls or boxes. We prefer the latter, so that the animals may lie quiet and not disturb each other.

The foregoing remarks apply chiefly to the pasture feeding down to Michaelmas, after which time the animals will require to be fed during winter in the same way as those which have not been fed in the pastures all the summer. We therefore proceed

to state the plan of feeding those animals which are kept entirely under cover both in summer and winter, until they are fit for slaughter on the home farm or for sale to the butcher. After the root-feeding in the spring is over or partly over the earliest crops of rye will be ready, followed by trifolium, or vetches and oats mixed, as the case may be; but after the trifolium is gone we prefer to give clover, as we find it answers a good purpose, and it disposes of the clover crop without the risk and cost of making into hay, for we find that an acre of clover cut for soiling fattening cattle will make double the quantity of both meat and manure than when made into hay, and this refers to both the first and second crop of clover. When we commence feeding with green fodder, which we give *ad libitum* in the mangers, we still reserve a portion of mangold, with which we mix the cake and meal, and feed the stock twice a day, gradually increasing the quantity from 2 lbs. of cake and 1 lb. of meal, so as to give double the quantity of each at Michaelmas, from which time those steers which may have been to pasture and those which have been in the boxes will from that time all alike be put upon root-feeding, which will consist of first early turnips or carrots, then Swedes, and if required mangolds. Two feeds of roots per day are sufficient, the daily allowance of turnips being 65 lbs., of carrots 50 lbs., of Swedes 60 lbs., and of mangolds 56 lbs., always being passed through Gardener's cutter, and given mixed with cake and meal. At no period of the fattening process do we exceed 4 lbs. of cake and 2 lbs. of bean or barley meal per day, as the animals do not assimilate and return a proportionate profit when given larger quantities. No hay is given under any circumstances, and if none is given they never miss it; but the cattle will always eat a good quantity of clean oat or barley straw when fed only twice a day with roots, and will lie down quietly and digest their food. And let it be remembered that practically hay is not only unprofitable as food for fattening cattle but positively injurious. When fed as directed we have had both steers and heifers for exhibition as well as sale when slaughtered weighing over 96 stone (of 8 lbs.), being at the time under twenty months old.

(To be continued.)

WORK ON THE HOME FARM.

Horse Labour is still in connection with wheat-sowing and preparing the land for it. The drilling of winter beans should also be attended to if it has not already been done, and whether they are drilled, or dibbled, or planted under furrow, it is essential that good room should be left for horse-hoeing, &c. This being a fallow crop generally before wheat, the importance of complete intercultural cannot well be over-estimated; great care should also be taken to lay the land into ridges suitable to the soil, so that the water may pass away freely during the winter months, and to effect this the land furrows and water furrows also should be thoroughly made out, and even after that is done a man should, spade in hand, examine the water furrows after the first heavy rains in order to clear away any grit or sand accumulations. The carting and storing of root crops must still be continued if not already completed in order to avoid the damage by frost, which often occurs if storing is too long delayed; in fact, we are never sure of a season for storing roots properly. An instance of sudden and severe frost we well remember occurred in the autumn of 1859, in which season we had nine days of the severest frost we can ever remember before Christmas, and in this case it occurred during the second week in October. Very few people secured their mangolds in that year; enormous quantities were frozen and totally lost for consumption, except a portion used immediately after the thaw broke up. The frost was so severe that it stopped the ploughs and all preparations for wheat-sowing for upwards of eight days. This is certainly exceptional as to weather, but it should be remembered that our climate is full of surprises. The slug being so strong, the young plants of trifolium have in many instances been destroyed, and many farmers fancy it is too late to sow again, but we recollect an instance when the slug was very strong as at present, when we lost our first sowing of 20 lbs. of seed per acre. We then sowed 25 lbs. per acre, and that was destroyed by the same enemy; we, however, nothing daunted, knowing the value of the crop for spring cattle food, sowed 30 lbs. of seed per acre as late as the 13th of November, and this time it succeeded although so late, and we found that the night frosts stopped the slug but did not injure the young trifolium plants, and we had a bountiful crop, although it was rather later for use in the spring.

Hand Labour is yet employed in spreading manure on the clover leas, and if any threshing of corn by steam is going on men will be required to assist in the work and afterwards in tucking and topping the ricks. The odd horse will be engaged in carting away the chaff hulls and caving, as the case may be, to some place on the home farm, where it can be kept quite dry for use, otherwise these offals should be put into heaps and thatched, for the substances when mixed together as yielded by wheat, barley, and oats furnish chaff for various purposes on the farm without the labour of cutting hay or straw into chaff by the aid of machinery. The best time for thatching buildings is now; the straw being fresh is more enduring, and the placing of thatch where required, if done

now, may prevent further strippings of the roofs during gales of winter; the corn ricks also, to remain for the winter, if at all injured during the late gales of wind, should be repaired, and we must here remark that we find round ricks are able to resist the wind with less damage than oblong ones. The storing of root crops is still going on; this work should be let by the acre, so that women and children may earn money and forward the work of the home farm, for we have always found the work may be done cheaper by such labour with careful supervision than when done by men, besides the fact of teaching the young people to work on the farm—a matter which is growing in importance annually. The storing of Swedish turnips in the field in order to avoid damage by game or by the alternations of frost and snow may be done as follows:—Open with the plough a double veering—that is, throw out two furrows on either side, the last furrows being made deep. This will leave a space wide enough and deep enough to hold a large quantity of roots, and after being cast into the trench thus made the plough may turn a deep furrow on either side, which will partially cover them, and men with the shovel may complete the covering by casting loose earth from either side. The roots keep well covered in this way by earth only, especially where the land is dry, such as sand, gravel, or hazel loam. All kinds of live stock must now be prepared for winter feeding and winter quarters, more particularly where the supply of dead meat produced from the home farm, whether it may be beef, mutton, veal, or pork, is required at the mansion.

THE POULTRY CLUB.

A COMMITTEE MEETING of the Poultry Club was held during the Oxford Show, at which there were present the Hon. and Rev. F. G. Dutton (President), the Hon. and Rev. A. Baillie Hamilton (Vice-President), R. A. Boissier, T. C. Burnell, A. Darby, S. Matthew, Rev. W. Serjeantson, and O. E. Cresswell (Hon. Sec.). These were elected as members:—Thomas P. Lyon, 5, Fenwick Street, Liverpool, and R. W. Warner, Bellfield Lodge, Fallowfield, Manchester.

The disqualification of Mr. Burrell's Buff Cochins pullet in pen No. 81 at the Oxford Show having been brought to the notice of the Committee, statements by Mr. Burrell and Mr. Wragg, from whom he had bought the bird, were heard, and the Committee came to the conclusion that "Mr. Burrell when he sent the bird to the Show was unaware of the state of its hocks; and while the Committee entirely exonerate Mr. Burrell from any suspicion of dishonourable conduct, they consider he has shown a want of due care in exhibiting a purchased bird which he had not fully examined. The Committee decide that no sufficient evidence was brought before them as to the state of the bird when it came into Mr. Burrell's hands." The Committee next considered a complaint made against Mr. H. Feast, and passed a resolution—"A complaint against Mr. H. Feast, late of Swansea, having been taken before the Committee of the Poultry Club, Mr. Feast is requested to furnish his present address to the Hon. Secretary of the Club, Mr. O. E. Cresswell, Bagshot, Surrey, as the Committee have been unable to obtain it. Further action in the case will be taken at the next meeting of the Committee on Nov. 11th."

Mr. R. J. Wood's disqualification at Hemel Hempstead was brought before the notice of the Committee by the Secretaries of the said Show. The consideration of it was postponed to give Mr. Wood time to offer an explanation of it. The disqualification of Dr. Snell's Silver-pencilled Hamburg cock at Worcester was considered by the Committee, and a statement having been read from Dr. Snell that he "had purchased the bird from a person in Lancashire or Yorkshire," the Secretary was directed to obtain from him the name of the vendor, and further action in the case was deferred till the next meeting. Other minor business was then transacted, and a vote of thanks passed to the Oxford Committee for the use of their room.

THE OXFORD POULTRY SHOW.

THE seventh Oxford Show was held on the 30th and 31st ult. Fanciers always seem specially to enjoy the Oxford Show, and if we mistake not they did so more than ever this year, from the knowledge of how nearly they had been deprived of it. Considering the very short time between the granting of the Hall by the Corporation and the date of the Show, it was perfectly marvellous to see close on two thousand entries—good evidence of the confidence which the fancying public places in the Managing Committee. The weather was cold and cheerless, and we fear that in consequence the visitors were not so numerous as in past years, though crowds seemed trooping in on the evening of the second day. The birds were arranged much as in past years—viz., the poultry in the Corn Exchange, care being taken to give a light position in the gallery to the Ducks of bright colour; Ducks, Geese, and Turkeys were in a boarded annex, and Pigeons in the Town Hall.

Dorkings.—We think Dark Dorkings very forward this year, and the pullets specially good. The cup cockerel is an immense

bird, but with a twist in his comb, which we certainly do not like; his partner a capital pullet. The second pen contained a cockerel too long on the leg, and a nice pullet, lighter in hackle than winners generally are now, but much to our taste. We thought the third pen by far the best; the cockerel is immensely broad and massive, and their legs are white. The price of the pen was sixteen guineas, and we saw a sold card upon it, and understood that Mr. Burnell was the purchaser. Mr. Lingwood's very highly commended cockerel struck us as excellent in shape, and two pens, 8 and 10 (Taylor), contained good birds but too rusty in colour. Among Silver-Greys there were several very good pens. The cup pen was fine and silvery; second a short-legged thorough Dorking pair; third smaller but good in colour. In the Variety Dorking class a very pretty pair of Whites made their first appearance and took the cup. In the second pen, Whites, was a very forward pullet, but the cockerel had a bad comb and a small sixth toe on one foot. Third were tolerable Cuckoos.

Spanish.—The first and second pens were very near in merit, the cup pair being best in condition. In the third pen was a fair cockerel with a poor pullet. As a whole the class was not remarkable. Mr. Le Sueur's pens were empty, in consequence, we heard, of rough weather in the Channel.

Cochins.—The first Buffs were a grand pair, the cockerel quite gigantic, his only fault being paleness on the breast. Second cockerel nice in colour with too much tail; the pullet good in shape and even in colour. Third both well shaped, even, and rich in colour. There was much excitement about a disqualification in this class. Mr. Hewitt in examining a pullet under the impression that she might be an old bird, felt some broken or cut hock feathers, and thereupon disqualified the pen. It belonged to Mr. Burrell, the winner of the first prize in the class and of various other prizes. We believe Mr. Burrell to be a most honourable fancier and perfectly guiltless of any attempt at trimming; but whether the feathers had been accidentally broken or purposely curled, or so broken before the bird came into his possession two or three weeks ago it is impossible to say. Being a member of the Poultry Club he naturally wished the case investigated by the Committee of that body, with what result will be seen elsewhere in our columns. Partridge.—First a grand massive cockerel with a pullet very indistinctly marked and too high in comb. In the second pen was a better marked pullet, with a cockerel in the moult. Third a cockerel lovely in colour and in blooming condition, with a beautifully pencilled pullet. Blacks.—The cup pair glossy and in good condition but small. Second very large, but though they were in a capital light we could not see any gloss on them. Third bad in combs but probably good in colour, but in so bad a light that we could not see this. Lady Gwydyr's three pens all looked good in colour, and Mr. Darby's though rather young were splendid in shape. Any other Variety.—The Whites were not at all such a class as we have seen at Oxford. First fine birds, the cockerel rather yellow; second fair birds well shown; third fair, not well shown.

Brahmas.—Dark.—First a well-shaped large cockerel, and very prettily pencilled pullet. Second a cockerel with good black fluff, and a pullet with fine delicate markings rather mixy on the wing. Third a big cockerel and a pullet which we remarked at the Dairy Show, with black markings on a white ground. Light.—The cup pair fine and good all round. The second and third awards were incomprehensible. Second were very small, dumpy, and ugly in shape; third poor in shape and feather; fourth far superior deep-breasted, and good in colour.

Langshans had but eight entries. The first and second pairs looked gigantic. The cup went to their enthusiastic champion Major Croad. Langshan fanciers should rejoice at this.

Game.—The entries for Black Reds were very large. The judging did not seem to give satisfaction among Game fanciers. We seldom give much heed to complaints, but the Game fanciers generally seem almost unanimous in their choice of favourites, and so their opinion merits attention. The £10 cup went to a long cockerel but not in good condition. The second was generally preferred as better in feather and style. Third good in quality, but not up to the mark in colour. There were several fine birds beyond the winners. Among them, 173, commended (Pope), a little coarse in head; 178, highly commended (Wood), smart; and 181, highly commended (Nelson). The class was a good one. The pullets were again a large and good class of forty-eight. Cup very much like the Dairy Show winner, dull in colour but reachy; second better all round; third a smart pullet a little rusty; fourth very good in head and eye. There were several excellent birds among the highly commended. Many fanciers thought 209 (Garnett), the best pullet in the class; 238 (Etheridge) was worth a card. Brown Red cockerels were few. First good in colour but long in hackle. Second better taken all round. Third good colour in feather, red in face. The Brown Red pullets (21), were not thought well judged. First was only a middling bird, too golden in hackle. Third we preferred to second. 272, very highly commended (Fenwick), was as good as any in the class; and 269 (Colgrove), good. Any other Variety.—First cockerel a Duckwing, good all round; many judges thought him the best Game fowl in the Show. Second good in colour, rather

soft in tail. Third another good Duckwing rather high in tail; we think the Dairy Show winner. 283 (Colgrove), a good-looking Pile. In pullets first was a good Duckwing, dark in eyes; second a Pile which we should have put first; third a middling Duckwing. 805 (Andrews), a good bird. Undubbed cockerels numbered seventeen. First a Black Red good in form, inclined to be duck-footed. Second a promising Pile. Third a good-looking Black Red as good as any in the class. 308, highly commended (Matthew), another good Black Red.

Hamburghs.—We much liked the first Golden-pencilled cockerel for his lovely golden chestnut hackle; the comb of the second cockerel appeared to have been tampered with; third a cockerel with a splendid tail, but a coarsely pencilled pullet. Silver-pencils as a class looked out of condition. First a cockerel with good honest comb, his tail not fully grown; second a forward cockerel; third cockerel good in head, and pullet less coarse in pencilling than most pullets. Golden-spangles did not strike us as good. The first pair were stylish. First Silver-spangles a pretty pair, save that the cockerel's comb is set too far from his head; second heavy and good in mooning, but cockerel's comb uneven and his sickles backward; third well mooned. In Blacks we could not see any first-rate cockerel in a class of twenty-four. The first-prize pair were far too purple, and the cockerel had curious patches of gold on the wing; his head, however, is good. Second were moderate. Pen 391, highly commended (Garnett), were the best in the class, the pullet excellent in every point and the cockerel very good with the exception of a slight drooping of the spike of his comb.

Polands.—Gold had a class to themselves, and very good the winners were. First a pair which we admired at the Dairy Show. Silvers and Blacks were mixed. First were Silvers, with markings more inclined to spangling than are generally seen now; second Silvers; third Black, spoilt by a parting in the cockerel's comb.

French Fowls.—Houdans mustered twenty-nine pens. As a whole the class was good, the pullets generally better than the cockerels. The cup cockerel a large bird with fine round breast, not over-good in comb; pullet good, moderately dark in colour; second a very fine pullet, cockerel with enormous comb and poor crest; third a very dark pair, the cockerel's comb perfectly monstrous; fourth a good pullet. We wondered why pen 444 (R. B. Wood) was left out, and admired Mr. Boissier's pullet. **Creve-Coeurs.**—We think the breed is improving in form, and are glad to see them shown shorter on the legs. First a capital pair, cockerel's comb, however, sticking out too much in front of the head; the pullet in second pen looked as fine as the first; third a well-shaped cockerel with a poor crest.

Malays.—First a well-developed pair ahead of the rest, the pullet light cinnamon in colour; second and third not so forward, pullets darker.

Leghorns.—Most of the Brown cockerels were short of tail. The first very handsome in comb and carriage. Messrs. Fowlers' Whites looked oversown, and so were put behind others which in points they surpassed.

Andalusians.—The cup pen much grown since we saw them last, and now a very nice pair; the second and third were rather red in lobes. Several pens in this class were empty.

Silkie.—The first pair by far the best, specially in crests; the other awards we did not think felicitous, but several pens were very equal. Pen 542 (Dr. Macrae) contained two indifferent cocks and received a high commendation.

Sultans.—The cup pair by far the best; the second pair were five-toed, rather yellow, but with fine crests.

Any Other Variety.—First La Fleche, second Plymouth Rocks; third, Black Minorcas. 556, highly commended (Dugmore), White Rumpless.

Bantams were very numerous, 102 pens being entered. The cup Black Reds are very good, especially the cockerel, which combines smallness of size with good tight carriage; the second also are capital, the pullet even better than the first, though the cockerel hardly the equal of the first. Brown Reds were a small class. First a local pair, winning by condition, though not particularly good in points; second pretty birds, not smart enough. In the Any other variety Game fifteen pens competed. All the winners were Piles, the cup pen very good, the third in our opinion better than the second. Black Rose-combed numbered fifteen. This variety seem to us to get larger and larger; certainly they are now shown with magnificent lobes, but other points seem sacrificed for these. The first pair were easily ahead. Sebrights were not superior. First Silvers, the cock's comb very coarse; second Silvers, the cock a nice bird; third Golden, rather large. The cock in Mr. Leno's very highly commended pen a very pretty little Silver. Any other Variety.—First, a well-known pair of Pekins; we should much like to know their age and how many of the breed are left in the country. Second Cuckoos, well marked but large, we wondered at the award; third White Rose-combed. The class was an interesting one from the great number of varieties in it, some being very rare. Mrs. Holmes showed nice Black-booted, Mr. Dugmore White-booted; and Mrs. Brassey her famous Dark Japanese, not in their former blooming condition.

Waterfowl.—In Aylesburys Messrs. Fowlers' first drake is a

marvel. Rouens seemed a fine class, but were in a bad position to see their colour and markings. Pekins had thirteen entries. Mandarins and Carolinas had a class between them; first and third being of the former variety, second of the latter. Black East Indians were, as usual, beautifully seen in the gallery. First small, very good. Second capital in colour, but a little larger; next in our opinion came one of Mr. Kellaway's pens.

Any other variety.—First the Chiloe-Widgeon which won at the Dairy Show. Their colours are very soft and beautiful. Second, Viduats; third, ruddy Sheldrakes.

Pheasants mustered three pens. Nice long cages they had, still the lovely pair of fire-backed birds which won second seemed very uneasy and damaged their plumage a good deal. The Golden, which were second and third, were quite tame and at home.

Turkeys were heavy and good. Every pen noticed. Geese, too, were marvels for the year. Whites came in for the first prize. The usual Selling classes followed, but we abstain on principle from commenting upon them.

POULTRY.

DORKINGS.—Coloured.—Cup, T. C. Burnell. 2, S. Smith. 3, J. A. & M. F. Smith. *White.*—Cup, H. Lingwood, Countess of Dartmouth. *Local.*—1 and 2, F. P. Bulley. *Silver-Grey.*—Cup, T. C. Burnell. 2, O. E. Cresswell. 3, Countess of Dartmouth. *White.*—Cup, S. Salter. *Local.*—1, S. Salter. 2, H. Southam. *Any other variety.*—Cup, O. E. Cresswell. 2, Mrs. M. A. Hayne. 3, Countess of Dartmouth. *Local.*—1, H. Southam. **SPANISH.**—Cup, J. Powell. 2 and 3, F. Walker. *White.*—Cup, J. Woods. *Local.*—1, J. Powell. *Cinnamon and Buff.*—Cup, E. Burrell. 2, H. Tomlinson. 3, W. Nicholls. *Local.*—1, J. Gee. *Partridge.*—Cup and 3, E. Tudman. 2, G. B. C. Breeze. *Black.*—Cup, Mrs. S. Turner. 2, E. Kendrick, jun. 3, H. J. Storer. *Any other variety.*—Cup and 3, P. H. Chase. 2, R. A. Boissier. **BRAHMAS.**—*Dark.*—Cup, J. Wood. 2, L. C. Norris. 3, E. Kendrick, jun. 4, Rev. H. Buckton. *Light.*—Cup, G. W. Petter. 2, Mrs. Drummond. 3, R. Henderson. 4, Lady Kyrle. *Local.*—1, G. R. Morecraft. 2, Major Staples-Brown. *LANGSHAN.*—Cup and 3, Major A. C. Croud. 2, Mrs. B. Hinde. **GAME.**—*Black-breasted Red.*—Cockers.—Cup, Lieut. Col. Newdigate. 2, Hon. & Rev. F. Dutton. 3, S. Matthew. *Local.*—1, S. Field. 2, J. Hill. *Pullets.*—Cup, J. Halsall. 2, W. J. Pope. 3, T. P. Lyon. 4, S. Matthew. *Local.*—1, S. Field. 2, T. Penn. *Brown and other Reds.*—Cockers.—Cup, R. Taylor. 2, S. Matthew. 3, F. Warde. *Local.*—1, Mrs. Osborn. 2, Miss M. G. Wells. *Pullets.*—Cup, J. Taylor. 2 and 3, F. Warde. *White.*—Cup, J. Robinson. W. A. F. Fenwick. *Local.*—1, Mrs. Osborn. 2, Miss M. G. Wells. *Any other variety.*—Cockers.—Cup, S. Matthew. 2, D. Harley. 3, T. P. Lyon. *Pullets.*—Cup and 3, T. P. Lyon. 2, Capt. Walton. *Undubbed Cockerels.*—Cup, J. A. Nelson. 2, J. Colgrove. 3, Hon. & Rev. F. Dutton. *Local.*—1, E. Woodford. 2, Mrs. Osborn. **HAMBURGH.**—*Gold-pencilled.*—Cup, Duke of Sutherland. 2, G. & J. Duckworth. 3, J. Rawnsley. *Local.*—1, J. T. K. Castell. 2, J. Calcutt. *Silver-pencilled.*—Cup and 3, H. Beldon. 2, J. Rawnsley. *Gold-spangled.*—Cup, J. Rawnsley. 2, W. A. Hyde. 3, J. Blakeman. *White.*—Cup, Moore & Cartwright. *Silver-spangled.*—Cup, H. Beldon. 2, Ashton & Booth. 3, J. Lancashire. *White.*—Cup, J. Rawnsley. Rev. S. Ashwell. *Local.*—1, Rev. S. Ashwell. *Black.*—Cup, Stott and Booth. 2, T. Mallinson. 3, J. E. Smith. *White.*—Cup, Sidgwick. P. Hinde. *Local.*—1, W. D. Ward. **POLANDS.**—*Golden-spangled.*—Cup and 3, E. Burrell. 2, J. Rawnsley. *White.*—Cup, H. Jarvis. *Any other variety.*—1, E. Burrell. 2, G. C. Adkins. 3, T. Lecher. **HOUDANS.**—Cup, G. D. Harrison. 2, W. Nicholls. 3, R. B. Wood. 4, J. J. Scott. *Local.*—1 and 2, Rev. G. Day. **CREVE-CEURS.**—Cup and 3, T. Ward. 2, R. R. Fowler & Co. *White.*—Cup, R. B. Wood. G. W. Hibbert. *Local.*—1, Mrs. C. Lecher. 2, W. Isaac. 3, J. L. Baker. **LA HORNS.**—*Brown.*—Cup, E. Gibbs. 2, R. Harvey. 3, A. E. Edge. *Local.*—1, R. Harvey. *White.*—Cup, Bradbury Bros. 2 and *White.*—Cup, J. C. Fraser. 3, T. Norwood. *Local.*—1, J. C. Fraser. **ANDALUSIANS.**—Cup, R. A. Boissier. 2 and 3, Miss Arnold. *Local.*—1, Rev. S. Ashwell. **SILKIES.**—*White.*—Cup, Rev. R. S. Woodgate. 2, G. W. Henshall. 3, E. Walton. **SULTANS.**—Cup, M. S. Christy. 2, Mrs. Gilpin. 3, H. W. & H. King. **ANY OTHER VARIETY.**—Cup, H. Stephens. 2, R. R. Fowler & Co. 3, R. Clement. *White.*—Cup, S. Evans. **GAME BANTAMS.**—*Black Red.*—Cup and 3, W. F. Addie. 2, W. F. Addie. 3, E. Ward. *Local.*—1, T. Coppock. *Brown and other Reds.*—Cup, Mrs. Osborn. 2, E. Walton. 3, Mrs. Steel. *Local.*—1 and 2, Mrs. Osborn. *Any other variety.*—Cup, R. Brownlie. 2, F. Addie. 3, E. Walton. **BANTAMS.**—*Black.*—Cup, W. Shackleton. 2, H. Beldon. 3, J. Carr. *Sebright.*—Cup, Countess of Dartmouth. 2, Rev. F. Tearle. 3 and *White.*—Cup, M. Leno. *Any other variety.*—Cup, H. B. Smith. 2, T. F. Phelps. 3, J. W. Crowther.

DUCKS.—*Any variety.*—Cup, R. R. Fowler & Co. 2, Dr. E. Snell. 3, J. Hedges. *White.*—Cup, R. Fowler & Co. 2, R. Sear. *Local.*—1, Miss R. Hubbard. 2, J. C. Fraser. *Rouen.*—Cup, Mrs. Kettlewell. 2, W. H. Copplestone. 3, W. Nicholls. *White.*—Cup, R. R. Fowler & Co. 2, Dr. E. Snell. P. Unsworth. *Local.*—1, S. Salter. 2, C. P. Sanders. *Black East Indian.*—Cup and 3, Miss E. Browne. 2, S. Burn. *White.*—Cup, J. W. Kellaway. *Local.*—1, T. Duffield. *Pekin.*—Cup, R. R. Fowler & Co. 2, Dr. E. Snell. 3, Rev. A. Kitchen. *White.*—Cup, H. Allen. R. Fowler & Co. *Mandarins and Carolinas.*—Cup, Rev. W. Serjeantson. 2 and 3, M. Leno. *White.*—Cup, M. Pratt. *Local.*—1, Mrs. M. Pratt. *Any other variety.*—Cup, Rev. W. Serjeantson. 2, M. Leno. 3, H. J. Ludlow. *White.*—Cup, W. Butcher. J. Trickett. **PHEASANTS.**—Cup and 2, M. Leno. 3, C. H. Huish. **TURKEYS.**—Cup and 3, W. Wykes. 2, H. J. Gunnell. *White.*—Cup, Rev. N. J. Ridley. Hon. Mrs. Colville. W. H. Mansfield. *Local.*—1, W. H. Mansfield. **GEES.**—Cup, R. Henderson. 2, S. H. Stott. 3, Dr. E. Snell. *White.*—Cup, J. & W. Birch (2). Dr. E. Snell. *Local.*—1, W. H. Mansfield. 2, Hon. Mrs. Colville.

SELLING CLASSES.—*Brahmas, Dorkings, and Cocks.*—1, C. Blood. 2, J. Rawnsley. 3, T. C. Morris. *Hens.*—1, J. Rawnsley. 2, J. W. Whitaker. 3, H. Pestell, jun. 4, Capt. T. S. Robin. *White.*—Cup, W. Nicholls. J. S. Lowndes. J. Gee. *Any other variety.*—Cocks.—1, R. Pound. 2, J. Rawnsley. 3, D. M. Mills. 4, J. Pickup, jun. *White.*—Cup, Rev. N. J. Ridley. *Hens.*—1, W. H. Copplestone. 2, J. Rawnsley. 3, J. Smith. 4, H. Stephens. *Cocks and Hens.*—1, Rev. H. Buckton. 2, Mrs. Christy. 3, J. Rawnsley. 4, Mrs. J. Mills. *White.*—Cup, C. F. Herrieff. L. Pilkington. *Bantams.*—1, E. Walton. 2, F. Cook. 3, M. Leno. 4, H. Jacob. *Ducks.*—1, T. Sear. 2, T. Mills. 3, W. H. Crewe. 4, J. Chadwick.

PIGEONS.

CARRIERS.—*Blue or Silver.*—Cocks.—1, R. Cant. 2, W. G. Hammock. 3, J. Reid. *Hens.*—1, W. G. Hammock. 2, R. Fulton. 3, R. Cant. *White.*—Cup, G. H. Gillham. *Black.*—Cocks.—1 and Cup, J. Baker. 2, R. Fulton. 3, H. Stephens. *Dun.*—Cocks.—1 and 3, R. Fulton. 2, Cuckey & Flicker. *Black.*—Cup, H. Stephens. 1 and Cup, H. Stephens. 2, W. G. Hammock. 3, R. Fulton. *White.*—Cup, C. H. Clarke. J. Baker. Cuckey & Flicker. *Any other variety.*—1, J. Chandler. 2, J. C. Ord. 3, C. F. Herrieff. *Blue, Silver, or any other variety.*—1, W. Hooker. 2, Cuckey & Flicker. 3, J. C. Ord. **PUTTERS.**—*Blue or Black-pied.*—Cocks.—1 and Cup, Capt. N. Hill. 2, R. Fulton. 3, J. Baker. *Hens.*—1 and 2, J. Baker. 3, Capt. N. Hill. *White.*—Cocks.—1, W. P. Keall. 2, J. Baker. 3, R. Fulton. *Local.*—1, W. P. Keall. *Hens.*—1 and 2, J. D. Lang. 3, R. Fulton. *Any other variety.*—1 and 2, J. Baker. 3, R. Fulton. **BARBS.**—Cocks.—1 and Cup, R. Fulton. 2, J. Baker. 3, T. Rhodes. *Local.*—1, F. Whichello. *Hens.*—1, J. Baker. 2 and 3, R. Fulton. *Young.*—1, R. Fulton. 2, J. Baker. 3, J. Chandler. **TUMBLERS.**—*Almond.*—1 and 2, R. Fulton. 3, J. M. Braid. *Mottled Short-faced.*—1 and 3, J. Baker. 2, R. Fulton. *Any other variety Short-faced.*—1, J. Baker. 2, T. C. Burrell. 3, H. Dacey. *Local.*—1, H. O. Crane. *Balds or Beards not Short-faced.*—

1, H. W. Bruno, 2, Cole & Bown, 3, J. Tanner, jun. *Any other variety*,—1, H. O. Crane, 2, J. Mallett, 3, Miss E. Beldon. **DRAGONS**.—*Blue*.—Cocks,—1, Cup, and 3, R. Woods, 2, R. & S. Leach. *Hens*.—1 and 2, R. Woods, 3, T. C. Burnell. *Young*.—1 and Cup, J. Lush, jun. 2, R. Woods, 3, C. E. Chavasse, *vhc*, R. Woods, T. Charnley, H. O. Crane. *Local*.—Prize, H. Crane. *Silver*.—Cocks,—1, W. G. Flanagan, 2, Hon. W. Sugden, 3 and *vhc*, R. Woods. *Hens*.—1, R. Woods, 2, J. Chandler, 3, W. Osmond. *Young*.—1, 2, and *vhc*, R. Woods, 3, W. Bishop. *Red or Yellow*.—Cocks,—1, R. Woods, 2, A. Leith, 3, W. J. Stapley. *Hens*.—1, Cup, and 3, R. Woods, 3, W. J. Stapley. *Young*.—1 and *vhc*, A. Leith, 2, R. Woods, 3, J. Tanner, jun. *White*.—Cocks,—1, J. Calcutt, 2, G. Parkham, 3, R. Woods, *vhc*, W. Bishop. *Hens*.—1, C. A. Pearson, 2, W. Bishop, 3, W. Boxall. *Local*.—C. F. Herrieff. *Young*.—1, C. E. Chavasse, 2, J. Calcutt, 3, W. P. Keall, *vhc*, R. Woods. *Any other variety*.—Cocks,—1 and 2, R. Woods, 3, T. C. Burnell, *vhc*, E. F. Woodman. *Hens*.—1, 2, and 3, R. Woods. *Young*.—1, 2, and 3, R. Woods. **ANYWERS**.—*Short-faced*.—Cocks,—1 and Cup, J. Kendrick, jun. 2 and 3, J. Bradley, *vhc*, B. Ravensley, W. B. Mapplebeck, jun. *Hens*.—1, F. Winsor, 2, J. J. Bradley, 3, H. Yardley. *Young*.—Cup, W. Slater. 2, H. Yardley, 3, J. Mantel, *vhc*, C. F. Herrieff. *Not Short-faced*.—1 and 3, C. F. Herrieff, 2, B. Ravensley. *Local*.—Prize, C. F. Herrieff. *Blue or Black-chequered Homing*.—Cocks,—1, B. Brown, 2, Cotton & Barker, 3, J. S. Pratt. *Hens*.—1, C. Herrieff, 2 and *vhc*, J. Hill, 3, W. E. Butler. *Any other variety*.—Cocks,—1, W. Cleave, 2, C. Hopwood, 3, Dr. E. Hicks. *Hens*.—1, F. W. Benham, 2, L. R. Williams, 3, W. Cleave. **RUNTS**.—1 and 2, H. Stephens, 3, H. Yardley. **OWLS**.—*Blue or Powdered Blue*.—Cocks,—Cup, 1, 2, and *vhc*, S. Salter, 3, J. Barnes. *Local*.—1, S. Salter, *Hens*.—1 and 3, S. Salter, 2, J. Barnes. *Any other variety*.—Cocks,—1 and 3, S. Salter, 2, J. Barnes, *vhc*, J. W. Stansfield (2). *Hens*.—1, J. W. Stansfield, 2, S. Salter, 3, J. Barnes. *Young*.—Cup, 1, 2, and 3, S. Salter. *Foreign*.—1, Dr. J. Bowes, 2, J. Baker, 3, S. Salter, *vhc*, M. Leno, jun. **TURBITS**.—*Blue or Silver*.—Cocks,—1 and 2, G. Webster, 3, C. Skinner. *Hens*.—1 and Cup, T. C. Burnell, 2, G. Webster, 3, S. Salter, *vhc*, J. Baker. *Any other variety*.—Cocks,—1 and Cup, J. Baker, 2 and *vhc*, T. C. Burnell, 3, S. Salter. *Hens*.—1, S. Salter, 2, O. E. Cresswell, 3, R. Woods. *Local*.—1, S. Salter, 2, J. Baker, 3, R. Fulton. *Any other variety*.—1, R. Fulton, 2, J. Baker, 3, R. Woods. **FANTAILS**.—*White*.—1 and Cup, O. E. Cresswell, 2, J. Waters, 3, J. F. Loveridge. *Any other variety*.—1, W. J. Warhurst, 2 and 3, H. Yardley. **NUNS**.—1, A. Duthie, 2, Miss E. Beldon, 3, R. Woods. **SWALLOWS**.—1 and 2, F. P. Bulley, 3, T. Wicks. **ARCHANGELS**.—1, S. Salter, 2, J. A. Winslow, 3, R. Woods. **JACOBSINS**.—*Red or Yellow*.—Cocks,—1, Cup, 3, and *vhc*, S. Salter, 2, J. Pyper. *Local*.—1, S. Salter. *Hens*.—1 and *vhc*, S. Salter, 2, R. Fulton, 3, J. Pyper. *Black or White*.—Cocks,—1 and 3, S. Salter, 2, J. Baker. *Hens*.—1, S. Salter, 2, J. Baker, 3, R. Fulton. *Any other variety*.—1, R. Fulton, 2, S. Salter, 3, C. Hopwood. **MAGPIES**.—*Black*.—1 and Cup, F. P. Bulley, 2, S. Salter, 3, H. Williams. *Local*.—1, F. P. Bulley. *Red*.—1, J. A. Winslow, 2 and 3, F. P. Bulley. *Any other variety*.—1 and 3, S. Salter, 2, F. P. Bulley. **ANY OTHER VARIETY**.—1, R. Fulton, 2, R. Gough, 3, J. A. Winslow. **FLYING HOMING**.—1, T. Taylor, 2, E. Newman, 3, Cole & Brown, *vhc*, J. Shillingford. **SELLING CLASSES**.—*Carriers, Pouters, or Short-faced Tumblers*.—1, C. J. Tutt, 2, C. F. Herrieff, 3, R. A. Pratt, *vhc*, H. O. Crane. *Any other variety*.—1, S. Salter, 2, R. Woods, 3, F. P. Bulley. *Pairs*.—Price not to exceed £3.—1, C. E. Chavasse, 2, T. S. Kemp, 3, W. E. Hutt. Price not to exceed £5.—1, R. A. Pratt, 2, J. Baker, 3, J. Chandler.

Mr. Hewitt and Mr. Teebay judged the poultry.

PERTH PIGEON SHOW.

THE first Show of the Perth Columbarian Society was held in the Drill Hall, a place well adapted for the purpose. The small prizes offered—viz., 10s. and 5s., in each class only succeeded in bringing together 132 entries. These amounts are rather too little to induce exhibitors from any distance.

Pouters cocks a good class of fifteen in various colours. First a Red, not good in colour, but with a large, well-shaped, and finely carried crop; a very showy bird in the judging pen. Second a stylish Red, deficient in crop, or would have turned the tables on the winner; third a good and well marked Blue; commended a Black (Semple), good colour and fair marking, but small; highly commended Red (Robb), closely marked, but stylish; Yellow (Webster), stylish, good colour, very deficient in feather. Pouter hens (eleven).—First good Blue, second and third fair Yellow, commended White. **Carriers**.—First a good style, and much superior to the rest. **Barbs**.—First and second fair Blacks, third a good Yellow, but red-eyed and washy in colour. **Jacobins**.—Winners all Reds, first and second being much ahead of the rest. Some good-looking ones were passed for being heavily plucked at the back of the head. **Short-faced Tumblers**.—A very good Agate first, an Almond second, and a fair Kite third, the rest very moderate. **Common Tumblers**.—First a Blue Bald, second a Black Bald, and third a Yellow Bald. The class as a whole lacked quality. **Fantails**.—First a really good, very small, and well-balanced bird with motion and style. *Any other variety*.—First a small well-gulleted African Owl hen of quality, second a good Black Swallow, and third a nice Red Turbit. **Selling Class** contained nothing of much value. Blue Turbits were first, second Red; and Black Magpies third.

PIGEONS.—**Pouters**.—Cock.—1, H. Fairley, 2, P. Wood, 3, A. T. Anderson. *Hens*.—1 and 2, T. Anderson, 3, A. Robb. **Carriers**.—Cock or *Hens*.—1, A. Stewart, 2, Carr & McLean, 3, J. Smart. **Barbs**.—Cock or *Hens*.—1, A. Stewart, jun. 2, G. Brothwick, 3, A. Smith. **JACOBSINS**.—Cock or *Hens*.—1, Carr & McLean, 2, W. & R. Davidson, 3, T. Mullions. **TUMBLERS**.—*Short-faced*.—Cock or *Hens*.—1, 2, and 3, J. Glenday. *Any other variety*.—1, H. White, 2, H. Fairley, 3, Robertson & Walker. **FANTAILS**.—Cock or *Hens*.—1, A. Smith, 2, Carr & McLean, 3, H. Semple. **ANY OTHER VARIETY**.—Cock or *Hens*.—1, W. & R. Davidson, 2, J. Glenday, 3, A. T. Anderson. **SELLING CLASS**.—*Pairs*.—1, J. Smart, 2, J. Glenday, 3, Carr & McLean.

JUDGE.—Mr. J. C. Lyell.

VARIETIES.

WE are requested to state that a Committee Meeting of the Poultry Club will be held at the Crystal Palace Hotel on Monday, the 11th inst., at 5 P.M., and the general meeting of the Club in the Crystal Palace at 3 P.M. on Tuesday, the 12th inst. A notice of this will be sent to every member and associate member, which notice will serve as a ticket of admission to the general meeting. In the case of any member not receiving or losing this notice, his or her visiting card will suffice.

— WE much regret to learn that the transept of the Crystal Palace in which we have been used of late years to see the Pigeons shown to so much advantage is at present taken up with some circus, and that consequently the Pigeons will be relegated to less favourable positions.

— WE hear that several of the best known amateur Pigeon fanciers have not this year entered at Birmingham, on account of the detriment their birds have suffered in past years from the suffocating atmosphere of the Pigeon gallery in Bingley Hall.

— WE have a report of a curious case tried in the Hull County Court. An exhibitor of a Pigeon in the selling class at the Cottingham Show sent a valuable bird, and, as is often the case, after winning with it claimed it himself. Another person also tried to claim it, and being informed that the exhibitor had already done so thereupon sued him. Judgment was given for the plaintiff on the ground that the bird was necessarily entered as for sale, which it could not be *bona fide* if the exhibitor had power to buy it in himself.

— AT the Council Meeting of the Bath and West of England Society and Southern Counties Association, held on the 29th ult. at the Grand Hotel, Bristol, Mr. Clement Bush, as Chairman of the Finance Committee, incidentally remarked that he believed that the loss sustained by the Oxford Meeting would not exceed £900, so that if an outstanding amount of £800 was speedily paid it would be unnecessary to draw upon the funded capital of the Society. The date of the Society's Meeting at Exeter was fixed for Whit week, commencing June 2nd, 1879. Colonel Luttrell, as Chairman of the Stock Prize Sheet Committee, brought up the list of prizes for 1879, which was approved and ordered to be circulated. The list showed an addition of £61 to the prizes offered at Oxford, caused by increasing the value of the prizes for Channel Island cattle, and adding a new horse class by giving prizes of £10 and £5 for yearling cart fillies. In the poultry prize list, brought up by Mr. Edwards, the principal alteration since last year was the addition of cups for the best birds in certain classes, and of another class for chickens hatched in 1879. Mr. Knollys, on bringing up the implement regulations for approval, reported that owing to the difficulty of obtaining land sufficiently near the show yard to be available for trial of steam ploughs, it had been determined to abandon such trials at the Exeter Meeting. Under these circumstances greater space would be devoted to the trial of sheaf binders, corn drills, and manure distributors, improvements in which it was highly desirable to encourage. The Devon County Agricultural Association were invited to join the Bath and West of England Society in the Exeter Meeting of 1879, but the Council were previously pledged to hold the 1879 Exhibition of the Devon Society at Devonport.

— RESPECTING the influence of machinery in agriculture, let us, says the *American Cultivator*, note two interests, wheat and cheese. Wheat is the great money crop of this country. Without the improved machinery now used in getting the 400,000,000 bushels of wheat annually raised in this country it would be impossible to harvest it, and there would not be a bushel for export. Cheese also is one of our large exports at the present time, and it is made almost entirely in factories. About 1851 the factory system of making cheese was first started. About 1855 it grew to a substantial industry. Its great growth was about 1865. In 1855 we exported 5,000,000 lbs.; in 1877 we exported nearly 200,000,000 lbs. It is hardly necessary to add that the growth and progress of the art applied to cheese-making has actually cheapened the product and enable us to export it in immense quantities. There is no doubt that the introduction of machinery into agriculture has cheapened the prices of products, and at the same time enabled us to compete successfully with other nations. In fact, breadstuffs are almost an industrial product, because without the recent agricultural machinery we could not compete in the price of grain with that raised by European labour.

THE STEWARTON SYSTEM.

MR. EDWARD THORP at page 306 tells us, "I have kept bees on a small scale for the last six years in skeps, and have derived much pleasure and some profit in so doing." This every bee-keeper can well understand; but the same gentleman, it would appear, is deterred from deriving enhanced pleasure and more profit by advancing to the Stewarton system through fear of a supposed enhanced outlay for hives and time to manipulate, which last he cannot well afford from his everyday avocations.

First as to cost. From Mr. Samuel Yates's (of Manchester) catalogue before me I find a full-sized Pettigrew skep costs 6s. 6d.; for a pair to hold a couple of prime swarms 13s. is incurred. A recent correspondent, "J. R.," tells us he procured 9-inch-deep body boxes from Stewarton at 5s. each, consequently he had his two prime swarms hived as one colony at an outlay of 10s., or at a saving of 3s. wood over straw, with the additional advantage that while the straw skep requires removal after a few seasons the wooden hive with ordinary care lasts a lifetime, and is consequently much the cheaper of the two. To obtain his income of

£5 2s. from his Stewarton colony "J. R." must have expended 2s. 9d. each, or 8s. 3d. for the three supers employed, but at the enhanced price of 6d. per pound super over run honey he was repaid thrice over, but their price was not deducted, as they would form part of his working plant, coming in serviceable for other hives and seasons.

Next as to time. My experience is most decidedly in favour of the non-swarmer or bar-frame over the swarming skep system. What a pleasant task is the look round the apiary of a morning, to put everything to rights before leaving for town, which is all that is required during the honey season. The business man cannot wait at home the middle or best part of the day to watch for skep swarms; that duty is delegated to some member of the family, who rolls it over on the gardener or some domestic, when neglect too often ensues, and our little favourites are voted all round a shocking bore. Take the case of "J. R." He said, "I hived my first swarm on the 17th of June, and lost much time watching for the other, which did not come off till late (12th of July)." Supposing this stock had been a frame hive instead of a common skep, the half of that cottager's breakfast hour any morning would have been amply sufficient to obtain an artificial swarm by simply placing a frame brood with the queen in an empty Stewarton on old stance, moving the stock close to first swarm, whereas he and his family lost their time and were distracted from other duties during a part of twenty-five days with what on an improved system could easily be accomplished in less than one half hour.—A RENFREWSHIRE BEE-KEEPER.

THE STEWARTON HIVE AND OTHER MATTERS.

WE have read that if two goats going in opposite directions meet on a bridge too narrow to allow them to pass each other, one kneels down to let the other pass over him, and that the goat which thus kneels is a finer gentleman than Lord Chesterfield. When two men ride together on one horse it is understood that one of them must sit behind the other. Though I have no Chesterfield pretensions and accomplishments, it is well known that I have for five years been playing the humble part of allowing others to pass over me. Very recently I tried to get on horseback behind the "RENFREWSHIRE BEE-KEEPER," with a view to do my best in helping him to introduce the Stewarton hive to the notice of the apianians of Great Britain. Strange as it may appear he would not let me. The offer of my services has been rejected without thanking; for my pains and good intentions I am grumbled at and found fault with. Some people are unfortunate and miss their way. A short time ago a lady at the head of a tea table asked me, "How it comes that so many writers on bees find fault with you while you do not find fault or interfere with them?" "Well, madam, answer me this question first: What makes all the sighing maids around pick at the pretty girl of the village?" "Oh, Mr. Pettigrew, you can get over everything and everybody," said the lady. Of course I can, and so can anybody else if he goes rightly to work. I am going to work in earnest to get over the "RENFREWSHIRE BEE-KEEPER." If I succeed in making him take the place of the humble goat on the bridge he will be a finer gentleman than Lord Chesterfield, and if he can humble himself to sit on horseback beside Mr. P. he would be a great boon to the apicultural world, and his fame would spread far and near.

I do not need to tell the readers of the *Journal of Horticulture* that the Renfrewshire gentleman is a faultfinder with almost everybody and everything out of his own school, that his criticisms are often severe and I feel unwarrantable, and that they are mixed up with personal allusions of a character not suitable for the intelligence of the present day. For five years he has been finding fault with me—almost everything I do or say is wrong. Mr. George Fox, the most successful gentleman in supering hives that England has produced, is found fault with. The day has past for large supers; the mode of filling them is wrong; the common bar-frame hive is wrong, its crown hole objectionable, and Pettigrew's lumbering waggon so full of great straw hives must be driven off the high road. Our friend down in Renfrewshire is fit for better work than this. There is a great deal of good stuff in him, and there is before him a wide field and around him a wide sphere of usefulness if he can abstain only from so much faultfinding, which at best is profitless work.

Some twelve months ago I had before me the letter of a lady seeking information about and a description of the Stewarton hive. I was greatly inclined to describe this hive in my own way, but being rather afraid of offending other folk I turned to Mr. Hunter's book, and there found a description of the hive from the pen of the "RENFREWSHIRE BEE-KEEPER," which I quoted. As the Stewarton hive still remains unknown to nine-tenths of British bee-keepers I thought it would be well for me to picture in words as well as I could this hive, and recommend it. Hence I wrote a description of the hive in question; and, sure enough, I could not write a better one now. Well, our Renfrewshire friend finds fault in his own characteristic way with almost everything I said about the hive. He says, "It is rather an unpleasant task to be required so frequently to demonstrate that Mr. Pettigrew is out of his

reckoning." I am fond of demonstrations of facts, and invariably pay far more attention to things proved than to things merely said. I may not know what he means by the word "demonstrate." If he assumes that somebody is wrong and he is right, and tells the world so, has he proved anything? I am not aware that he has succeeded once in proving that I have been wrong or out of my reckoning. I am anxious to avoid making mistakes, and whenever I discover that one has been made I openly withdraw it. The Stewarton was described as consisting of two breeding boxes 6 inches deep and 15 inches wide, with two supers 4 inches wide, all with cross bars. Our friend says "it actually consists of at least three boxes 14 inches wide, with as many honey boxes as are required." This correction is rather too frivolous to dwell upon. A bar-frame hive and a straw hive are what they are called without either supers or nadirs; and a Stewarton hive is what it is called without either nadir or super. If a Stewarton hive be ordered of Mr. Allan he sends two breeding boxes and two supers or honey boxes; if more are required he charges extra for them—I think 7s. for a box, and 3s. for a super. The "RENFREWSHIRE BEE-KEEPER" has, I think, been successful in filling supers on two boxes. As to the width of the hive being only 14 inches I have nothing to say. A friend of mine procured two from Mr. Allan last year—one of which was more than 15 inches wide—made to order. If a greater width be adopted, say 16 or 17 inches, the hive will be improved. The shifting of the slides, too, is a matter of choice. I said all were removed. Our friend says, "The slides are never removed from the tops of the breeding boxes to the tops of the supers, giving the bees free access from both first and second floors to the attics, which on no account is allowed." Again, "Mr. Pettigrew is far astray in stating that the queen can go into the super as often as she pleases. She is strictly debarred by the central slides being kept closed." Our friend knows, or should know, that if only one slide be withdrawn the queen can enter the super whenever she likes. Mr. Briscoe, who uses the Stewarton hive, lately told a correspondent seeking information that if three breeding boxes were not used the queen went into the supers. In determining what combs shall be used for brood the working bees appear to be the prime factors. My crown holes between hives and supers are 4 inches wide, and during thirty years I have found a patch of brood in two supers only. If ever I work on the Stewarton principle all the slides between hives and supers shall be withdrawn. Free access from all parts of the hive to the supers would tend greatly to prevent swarming. The Stewarton hive would not appear to me half so valuable if it could not be supered without the slide. Ample freedom and thoroughfare lessen complication and separation. In search of other demonstrations I shall have to take a retrospect. A few months ago "RENFREWSHIRE BEE-KEEPER" wrote in the *Journal* that a hive of bees was like a sealed book to those that do not use moveable-comb hives. How could he demonstrate this? Some fifty years ago I knew many working men who never saw a moveable-comb hive, and yet they knew a great deal about the internal workings of hives, and had then learned lessons which he has yet to learn. It is very painful for me to tell him this, but it is right that he should be told.

About the same period of time the question of crude and perfect honey was being discussed in the pages of this *Journal*, and it is well known that I hold there is a difference between them—that bees gather crude honey, and at home convert into perfect honey. Our friend pounced upon me like an eagle by declaring that Mr. Pettigrew's notions were "the crudest of all crude theories." I had seen, handled, and tasted both crude and perfect honey a thousand times, and could smile at the demonstration and let it pass; but seeing that he looks to his past doings it is just possible that he may consider that he put me right on the question. I think I can put him right. I intend going to Scotland next spring to remain some weeks. When I am there I shall be happy to visit his garden and let him, and as many bee-keepers as he may please to invite, have a demonstration. If he consents, I will turn up one of his hives and take from it both crude and perfect honey, and hand it to competent judges for examination, and leave them to say who is right and who is wrong. A demonstration of this kind would settle the question for ever; and by making arrangement for it our friend will show that he loves truth more than his own opinions. If the gentleman consents and makes the arrangements, and I live to go down to Renfrewshire, I shall beg leave to show him that he is wrong in stating that bees work in the day, and at night "enjoy a well-earned repose." What a treat it would be to me to see a swarm of bees asleep enjoying a well-earned repose! I think there will be no difficulty in showing him or anybody else that bees are during the night engaged in many offices of activity, one of which is carrying honey from the bottom to the top of the hive—from the breeding combs to the honeycombs, and that supers get great additions of comb and honey during the night.

On another occasion he stated that eggs were never removed from one cell to another. Many bee-keepers beside myself have known eggs removed from cell to cell after the queen was removed from the hive, and others have seen the bees in the act of removing them.

Within the last few weeks our Renfrewshire friend has found fault with me for not noticing publicly the capital results in supering off Stewarton hives belonging to a clergyman in his neighbourhood as I understood him, or living somewhere in Scotland. I am always pleased to notice and hold up to view the best models of success in every school of apiculture, but then I was comparing the results of the bar-frame and the Stewarton hives kept in England. At the time I had heard nothing of bee-keeping or harvests of honey in Scotland this year. Since then I have received three reports—two from Aberdeenshire and one from Lanarkshire, all pretty satisfactory. The Lanarkshire report comes from Mr. George Henshilwood, grocer, Carlisle. The bees there are the common sort, the hives are made of straw, and the swarming system is practised.

The report says that William Smith, station master, had a stock hive which yielded two swarms only. The parent hive weighed 92 lbs. and the swarm 131 lbs.—together 223 lbs. Daniel Reid had a first swarm rather heavier than Mr. Smith's. Mr. James Somerville (thatcher) got two swarms from one stock; weight of parent hive and its swarms being 296 lbs. Somerville had another stock which yielded—the first of which weighed 112, the second 94, third swarm 90 lbs. The old stock was not weighed, but his lightest stock was 56 lbs. and his heaviest was 80 lbs.; but taking the lowest figure for the weight of the stock, you will see that he got hives weighing in all 352 lbs. from one stock. James Rennie's hive produced the following results: stock hives 80 lbs., first swarm 70 lbs., second 35 lbs.; and two virgin swarms from first swarm. First virgin swarm weighed 100 lbs.; second virgin 43 lbs.; altogether 346 lbs. from one stock hive.

If the Renfrewshire gentleman would fairly consider these results I think they might help him to moderate his language in condemning other people, other systems than his own, common bees, and straw hives.—A. PETTIGREW.

P.S.—Since the above was written I have seen his letter on the Stewarton and straw-hive system, and regret much the strong feeling that is manifested by his remarks. As I am of opinion that angry discussion will not advance apiculture or settle any question of importance, it is likely that I shall not again attempt to defend myself from unfriendly attacks, meanwhile I court friendly criticism. I am very sorry that I mistook 1864 for 1868. It was quite unintentional. I trusted to my memory instead of referring to dates. However, the bees at Carlisle did as well if not better in 1868 than they did in 1864; therefore the mistake was in no sense misleading. I have to apologise to Mr. Briscoe for misreading his remarks and misrepresenting his meaning. This, too, was quite unintentional. I had discovered the mistake before his correction appeared.—A. P.

THE FERTILE WORKER.

TAKING a keen interest in entomology for a number of years, and having had a number of opportunities of inspecting live specimens of imperfect queens as well as hermaphrodites of the race *Apis mellifica* I was all the more curious to see what I had often read of but never chanced to meet with—a "fertile worker," which occurs in this species as well as in many of our wild bees, and more particularly after having perused the following startling assertion of your correspondent, Mr. A. Pettigrew—"I fearlessly affirm that there never was and never will be a fertile working bee." I therefore all the more gladly availed myself of the invitation of the "LANARKSHIRE BEE-KEEPER" to visit the apiary at Auchenraith, High Blantyre, and satisfy myself on that head, which I did on the 19th of July last. I was shown a queenless hive of common black bees, to which a piece of brood comb from an Italian hive had been given to raise a queen. This they failed to do. On the twelfth day the bee-master noticed a worker receiving marked attention, and on the following day found her depositing eggs. Three or four days thereafter grubs could be seen at the bottom of the cells, and he therefore made it a study to examine this hive daily. Seventy-one days from the time eggs were first noticed beautifully banded Italian drones emerged from the cells.

I can assure your readers it was with no small interest I watched her examining the cells, depositing eggs, and receiving that attention from the other workers usually given to royalty; her movements being all the more readily followed from her being the only Italian present amongst the black bees.—R. J. BENNETT, *Argyleshire*.

POSITION OF SUPERS.

FROM Mr. A. Cockburn's description of bee-keeping in the north of Scotland it is cheering to hear that the frame hive has found its way amongst northern skeeps. With combined swarms and modern improvements what magnificent harvests of super honey may we dwellers in a highly cultivated district expect to find recorded from that honey El Dorado Aberdeenshire in the second edition of Mr. Cockburn's sensible little treatise "The Scotch Bee-keeper!" with possibly, too, the chapter on Ligurian bees re-written.

Your correspondent's idea of placing the empty super below instead of above the full one is contrary to Stewarton principles, and, as I have already demonstrated, bad practice. He calculates immunity from brood therein by causing the bees to build thick comb. I once thought so too in my novitiate days, and the super safe with bars $1\frac{1}{2}$ inch wide, but afterwards made the mortifying discovery that all full-width combs were first narrow ones, and often brooded before they were elongated, and worse still, even after, our little favourites proved so accommodating as to cut down the lower portions of the wide combs to receive the souvenirs of the visits of royalty; consequently I came to learn to forge the fresh link always at the end of the chain; and, altering the phraseology a little, I would tender to your correspondent the advice once given to a friend of the writer, when doing the lions of the metropolis, by a denizen of the Seven Dials tapping him on the shoulder and, pointing to a little posterior handkerchief protrusion, remarked, "Don't, sir, put temptation in a honest man's way." And so say we, "Don't, sir, put temptation in a prolific queen's way.—A RENFREWSHIRE BEE-KEEPER.

OUR LETTER BOX.

GEESSE ON PASTURE (S. J. B.).—They will not kill the moss, and neither horses nor cows will feed where their manure is.

PAINTING BEE HOUSE (*Jane*).—We do not think it would be injurious to the bees to paint the outside of a house or hive at this season of the year.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. $51^{\circ} 32' 40''$ N.; Long. $0^{\circ} 8' 0''$ W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.						Rain.
1878.	Baromet- ter at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
Oct.		Dry.	Wet.			Max.	Min.	In sun.	On grass		
Nov.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.	
We. 30	29.704	36.9	34.9	S.W.	45.1	44.7	32.0	57.4	28.4	0.082	
Th. 31	29.870	34.3	36.1	N.W.	44.0	45.6	31.6	76.0	26.6	0.062	
Fri. 1	29.924	41.6	40.6	N.	44.5	49.8	35.2	86.0	35.9	—	
Sat. 2	30.117	37.7	35.8	N.	44.1	48.3	33.0	78.2	29.0	—	
Sun. 3	30.197	38.1	36.6	N.W.	44.1	46.5	30.8	67.2	26.1	—	
Mo. 4	29.810	34.0	33.8	N.	42.8	42.7	32.0	51.0	27.9	—	
Tu. 5	29.819	40.9	38.0	N.	42.2	45.5	33.9	87.0	30.7	0.010	
Means	29.922	37.8	36.5		43.8	46.2	32.6	71.8	29.4	0.124	

REMARKS.

30th.—White frost, few flakes of snow in morning, rain commenced 10 A.M.; fine after 0.30 P.M.; sunshine at intervals, dark and misty latter part of afternoon; fair evening.

31st.—Bright sunny morning, overcast and dull after 0.35 P.M.; fine with sunshine between 1.30 and 2.30 P.M.; dark and dull at 3.15 P.M.; drizzling rain at 4.30 P.M.; heavier rain after 6 P.M.; wet evening.

Nov. 1st.—Clear, fine, bright day; starlight evening.

2nd.—Bright sunny morning; short sharp shower 2.45 P.M., and shower at 3.35 P.M.; cold starlight evening.

3rd.—Fine day throughout; at times bright and sunny; lunar halo 7.30 P.M.

4th.—Misty morning, rain but only slightly from 9 to 10.30 A.M.; fair but dull; cold afternoon; moonlight evening.

5th.—Bright, clear, sunny day, rather warmer; cloudy evening with fine lunar corona.

A cold week; average temperature has fallen nearly 15° in a fortnight.—G. J. SYMONS.

COVENT GARDEN MARKET.—NOVEMBER 6.

EXTREME quietness has ruled our market during the week, common Apples being a complete drop, and high-class goods conspicuous by their absence. A plentiful supply of Pines from St. Michaels and Madeira have reached us, specimens from the latter place being exceptionally fine. Pears remain dear, the supply from the Continent being very short.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	1 sieve	1 0 to 4 0	Melons.....	each	1 0 to 4 0
Apricots.....	dozen	0 0 0	Nectarines.....	dozen	0 0 0
Chestnuts.....	bushel	0 0 0	Oranges.....	dozen	0 0 16 0
Figs.....	dozen	0 0 0	Peaches.....	dozen	0 0 0
Filberts.....	1 lb.	0 8 1 0	Pears, kitchen.....	dozen	0 0 0 0
Cobs.....	1 lb.	0 8 1 0	dessert.....	dozen	3 0 0 0
Grapes, hothouse.....	1 lb.	0 9 6 0	Pine Apples.....	1 lb.	2 0 4 0
Lemons.....	100 lb.	6 0 18 0	Walnuts.....	bushel	5 0 8 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes.....	dozen	2 0 to 4 0	Mushrooms.....	pottle	1 6 to 2 0
Asparagus.....	bundle	0 0 0 0	Mustard & Cress.....	punnet	0 2 0 4
Beans, Kidney.....	1 lb.	0 3 0 6	Onions.....	bushel	2 6 3 0
Beet, Red.....	dozen	1 6 3 0	pickling.....	quart	0 4 0 6
Broccoli.....	dozen	0 9 1 6	Parsley..... doz.	bunches	2 0 0 0
Brussels Sprouts.....	1 sieve	3 0 4 6	Parsnips.....	dozen	0 0 0 6
Cabbage.....	dozen	1 0 2 0	Peas.....	quart	0 0 0 0
Carrots.....	bunch	0 4 0 8	Potatoes.....	bushel	3 6 4 6
Capsicums.....	100 lb.	1 6 2 0	Kidney.....	bushel	4 0 5 0
Cauliflowers.....	dozen	3 0 6 0	Radishes..... doz.	bunches	1 0 1 6
Celery.....	bundle	1 6 2 0	Rhubarb.....	bundle	0 0 0 0
Coleworts, doz.	bunches	2 0 4 0	Salsify.....	bundle	0 9 1 6
Cucumbers.....	each	0 4 1 0	Scorzonera.....	bundle	1 0 0 0
Eucalypts.....	dozen	1 0 2 0	Seakale.....	basket	2 0 3 0
Fennel.....	bunch	0 3 0 0	Spinach.....	1 lb.	0 3 0 0
Garlic.....	1 lb.	0 6 0 0	Sprouts.....	bushel	2 6 4 0
Herbs.....	bunch	0 2 0 0	Turnips.....	bunch	0 2 0 6
Leeks.....	bunch	0 2 0 4	Veg. Marrows.....	each	0 2 0 0

WEEKLY CALENDAR.

Day of Month	Day of Week	NOVEMBER 14—20, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.	
			Day.	Night.	Mean	h.	m.	h.	m.	h.	m.	h.	m.				
14	TH	Torbay and Walton Chrysanthemum Shows.	48.5	33.8	41.2	7	19	4	11	7	22	11	40	20	15	26	318
15	F	Tunbridge Wells and Croydon Shows.	49.0	34.8	41.9	7	20	4	9	8	39	0	42	21	15	16	319
16	S	Bulb Sales at Stevens's Rooms.	48.9	33.2	41.0	7	22	4	8	10	0	0	36	22	15	5	320
17	SUN	22 SUNDAY AFTER TRINITY.	48.1	33.9	41.0	7	24	4	6	11	22	0	55	23	14	53	321
18	M	[mittees at 11 A.M.	47.9	32.9	40.4	7	25	4	5	morn.	1	11	24	14	41	322	
19	TU	Royal Horticultural Society—Fruit and Floral Com-	48.9	33.5	41.2	7	27	4	4	0	44	1	27	25	14	27	323
20	W	Liverpool, Ealing, Chelmsford, and Saffron Walden [Shows.	48.7	34.6	41.7	7	29	4	3	2	9	1	42	26	14	13	324

From observations taken near London during forty-three years, the average day temperature of the week is 48.8°; and its night temperature 33.8°.

PRUNING SHRUBS.

THE proper time to prune or cut-back trees and shrubs is a question often asked in the Journal. If experience warrants anyone giving an opinion on the matter I do not think that I need be afraid to state mine, as we annually do much of this kind of work.

Our pleasure grounds extend to between thirty and forty acres; nearly the half of this area is covered with trees and shrubs, and many cart-loads of stuff are cut from them every year. We cut them with two objects in view—the first to keep them in shape, the second to keep them within due bounds.

In cutting the shrubs into shape great care should be taken that this is not overdone, as nothing detracts so much from the beauty of a choice tree or shrub as cutting it into a formal cone. Our rule of cutting into shape simply consists of removing one of the leaders when two are forming, or cutting a few more points of one side than the other as the growth demands. In doing this we endeavour to cut without leaving any signs that pruning has been done. This applies particularly to single specimens on lawns, and isolated shrubs which stand apart from or above others in groups.

Cutting to keep shrubs within bounds is generally practised on Yew and other hedges, and on shrubs growing close to walks and flower borders and also in clusters together. Hedges may be clipped smooth like the face of a wall, but Rhododendrons and similar evergreens should be cut with the knife only and that just to remove the intruding points, leaving no stumps in a prominent position where only a surface of leaves or leaf-bearing shoots should be seen. Apart from this, however, the form and style into which trees and shrubs are cut will follow the owner's taste in many instances.

The time of cutting is of very great importance. In situations where the winters are mild and cutting winds do not usually prevail in the spring every kind of tree and shrub that will grow unprotected in the open air may be safely cut, clipped, or pruned from the beginning of November until the end of March. Cutting before November when the shoots may not be matured often causes them to die-back more or less from the wound, and to cut them when growth begins in April or during the growing season injures many of the more tender sorts. In districts where the winters are generally frosty and severe only shrubs of the very hardiest description should be pruned until the latter end of March, and by that time it is, as a rule, always safe to prune any kind of shrub as freely as is required.

The prunings of all kinds of shrubs cannot be more profitably disposed of than burning them; the ashes make an excellent manure for the kitchen garden. They suit all kinds of vegetables, and when mixed with a little soil they are excellent for covering Onion and other seeds.—PRACTICALIST.

ORCHIDS IN COLD FRAMES.

SINCE Mr. Gower found out by accident—the failure of a heating apparatus—that many Orchids would not only endure

a much lower temperature than was at that time supposed, but would thrive with but little artificial heat, the culture of these beautiful plants has considerably increased. A few years ago collections of Orchids were more rare than collections of Pine Apples are now. Orchids, however, are no longer limited to aristocratic gardens, but are now regarded as popular decorative plants, and are grown by hundreds where formerly dozens only were cultivated, and are seen in gardens large and small. They are grown in vineries, cool stoves, pits, and warm greenhouses associated with other plants, and in such mixed collections satisfactory results have been achieved. It is found that during the summer months many of the most free-flowering, useful, and beautiful Orchids in cultivation, such as *Odontoglossums* and *Masdevallias*, flourish admirably in houses having north aspects and where artificial heat is not afforded. This being so, it follows that there is nothing to prevent the plants succeeding equally well in unheated frames for four or five months in the year, or from the end of May until the middle of October. That many Orchids will succeed under this simple mode of culture, at least in the neighbourhood of London, Mr. Fisher, gardener to F. Williams, Esq., The Woodlands, Balham, has clearly demonstrated during the present season. On May 23rd Mr. Fisher placed a considerable number of small plants in 5 and 6-inch pots in a cold frame, and there they remained until the first week in October. I saw the plants shortly after they were placed in the frame, and again took occasion to inspect them just after they had been removed to the house after their summer sojourn in their humble quarters. The growth the plants made in the frame is of the most satisfactory character—fully equal if not superior to that made by plants grown wholly in houses. When removed from the frame the plants were remarkable for their healthy appearance, their sturdy growth, and fine brown pseudo-bulbs and robust spikes of bloom were showing freely on some of the *Odontoglossums*.

The frame was arranged with the lights sloping to the north. A portion of the soil was dug out to afford head room for the plants and to permit of a free circulation of air about them. Common flower-pot saucers were first placed quite level in the frame; in each saucer a flower pot was inverted, and on these pots the plants were placed. The saucers were filled with water, and were constantly kept so, the water answering two important purposes—namely, producing an atmosphere exactly suited to the welfare of the plants, and effectually preserving them against injury by slugs. A light framework was improvised 3 feet or more above the frame, and on this a canvas blind was spread to break the fierce rays of the sun during the height of summer. The canvas of course might have been laid on the glass, a mode of shading adopted by nine out of ten who shade plants in frames, but it would have been far less effectual: the plants require all the light possible, short of direct sunlight, and all the air they can have, and both are afforded by having the canvas supported some distance above the glass, where it acts more as a cloud than a direct cover. It is surprising how much better plants thrive when shaded in the manner above noted than they

do when the shading material rests on the glass. This remark applies to all plants requiring shade, also to Melons and Cucumbers; and those who try the plan will soon perceive its advantages: in the case of Orchids, however, Mr. Fisher considers the elevated shading not only desirable but indispensable.

The plants that have passed the summer in the frame at Woodlands are *Odontoglossums cirrhosum*, *Alexandrae*, *nebulosum*, *pulchellum*, *Insleayi leopardinum*, *membranaceum*, *triumphans*, *hastilabium*, *Phalaenopsis*, and *Roelzii*. All those except the two last named remained, as above mentioned, in the frame until the first week in October, the two specified having been removed a fortnight previously. Not one plant has sustained injury, but, on the contrary, all of them are in robust health, some having made remarkable growths. *Oncidiums Weltoni* and *cucullatum* were subjected to the same treatment and flourished equally well, while *Masdevallia Harryana* and *Epidendrum vitellinum majus* show by their rich green appearance how much they have enjoyed their cool summer quarters. It is Mr. Fisher's intention to subject other Orchids to the same treatment when the proper time arrives for doing so, he being satisfied that they will do as well, if not better, than if left in the houses.

The frame rested on the ground, all the air the plants received reaching them from the top, the lights always being tilted, often at the front as well as the back; they were also permitted to have all the sun they would endure, which, under the circumstances, was found to be considerable, the shading only being employed during mid-day in very bright and hot weather, and to this is to be attributed the ripe, hardy, brown, polished appearance of the pseudobulbs. The experience recorded demonstrates that with a judicious selection of Orchids and good cultural attention many can grow these plants and produce flowers of rare beauty who are as yet afraid of their cultivation, for it is certain that the sorts mentioned, and many more, only really require the convenience of frames in summer, at least in the south of England, and a house for wintering the plants having a mean temperature not exceeding 50°. Mr. Fisher is doubtless a skilful cultivator, for the plants under his care—not Orchids alone—are in excellent condition, clean and healthy, the *Crotons* especially being noteworthy for their fine foliage and bright colours.—J. WRIGHT.

GRAPES NOT COLOURING.

UNDER the above heading Mr. Iggulden has communicated some valuable remarks on an important subject. As a rule, I think when Grapes are deficient in colour the cause is exhaustion of the Vines—temporary it may be, and partial, still exhaustion. When Vines are overcropped the Grapes seldom colour well. They have not the necessary support enabling them to do so, or rather the resources of the Vines are so greatly divided that the several parts of the Vines cannot be perfected. If the same resources were expended on a lesser number of parts—bunches—in the same ratio would those bunches be improved. It is curious that if one portion of a Vine is lightly cropped and another portion heavily cropped, the Grapes in the one case will be black and in the other brown. This I have proved, and it is easy of proof by others.

When Grapes that are apparently moderately cropped refuse to colour, the cause even then, I think, cannot be found on any other principle than that of exhaustion—temporary in this instance and due to local causes, but still, I repeat, exhaustion. If a prolonged term of extremely hot weather occurs in the early part of the season Grapes are much more likely to be deficient in colour than if the heat occurred a month or two later. The cause of this, I apprehend, is that in the former case the feeding roots are less numerous than in the latter, while possibly the evaporation from the foliage may be greater earlier in the season than at a later period. Probably 90 per cent. of a bunch of Grapes is water; this is taken up by the roots and appropriated by the fruit. When the supply of moisture imbibed by the roots is not commensurate with the evaporation from the foliage then the Grapes must suffer, and the effects are seen in imperfectly coloured fruit. To counteract the effects of excessive transpiration a slight sprinkling of lime-wash to the glass is often advisable during brilliant weather in early summer before the roots of the Vines are in vigorous working order. It is not the bunches in that case that require shade so much as the foliage.

A high temperature is not essential for the colouring of Grapes. They will colour as well with a night temperature of

50° as with one of 70°; not so quickly, it is true, but quite as well, and probably better. This is obvious by the dark colour which Grapes assume when they ripen under good management in the open-air. At that time a long period of growth has produced a powerful root-action, and at the same time autumn dews arrest evaporation, and the fruit in consequence appropriate to the fullest extent the abundant nutriment supplied by the roots.

It is not at all uncommon for Vines that have produced imperfectly coloured Grapes in the summer to produce, if permitted, a second crop on the sub-laterals in the autumn with berries as black as jet. In the former case a thirsty atmosphere overpowered the roots; in the latter case, by the greater root-action then existent, the food supply was ample—there was no exhaustion.

A steady growth of Vines in their early stages is always an advantage, because the roots then have a chance to extend and gather strength before the crop is exhaustive. A long and steady growth is better than a short and quick one. This appears to be the opinion of "R. P. B.," whose writings have the true gardener's ring about them equally with those of "A KITCHEN GARDENER," who first directed attention to the significant want of finish of so many Black Hamburg Grapes this year, and of which I believe the true cause was suggested by Mr. Iggulden, whose letter is worthy of careful consideration.—A NORTHERN GARDENER.

RÉSUMÉ OF THE ROSE SHOWS FOR 1878.

My candid opinion is that the Roses exhibited this year have not been up to the mark: I mean that, compared with the exhibits of other years, the Roses shown both by nurserymen and amateurs have not been so good as I have known them. Secondly, I would say that what may be called the metropolitan growers have been at a discount. The honours have gone to the west both in trade and amateur exhibits. John Cranston is the king of rosarians this year, and Mr. Baker of Heavitree, Exeter, the first of amateurs. So three cheers for the west.

Perhaps someone will say Hereford is not in the west. If it is not, how is it that the West of England Rose Show is always held there? I suppose no one doubts that Exeter is the metropolis of the west, so that both with trade and amateur growers the west is this year victorious. Well, that is something. If you cannot claim yourself to be cock of the walk, you can say your big brother is; if you are beaten in Dorset, your neighbour in Devon is the biggest swell of all; if you do not astonish a cold cynical world with your exhibits, your champion in Hereford takes the shine out of all comers. So once more three cheers for the west.

The shows held this year have not been quite so numerous as of late years. Birmingham, which used once a year to welcome the queen of flowers, does so no longer; and Exeter from pecuniary difficulties is compelled to do without a show. On the other hand we have the two great shows of the National Society, but it must be remembered that one takes the place of the Crystal Palace exhibition; so that there is here only a gain of one, which is neutralised by the abandonment of the one held at the Westminster Aquarium. I do not know what reason has caused this, for at the dinner after the Rose and Carnation Show last July the manager assured us that he should always have a Rose show. As he gave this assurance in answer to a direct question from myself, I should be glad to know what has caused him to break his word.

The great Show held by the National Society at the Crystal Palace attracted most attention, and in my opinion it was undoubtedly the show of the year. The date of the fixture was a most happy one. Everyone was north and south, east and west. No one, as the Honorary Secretary wrote, can say that the date was too early, for we had a fortnight of the most forcing weather I ever knew in June, and the blooms opened at a marvellous rate. Many people who, like myself, have a hot light soil found that their Rose season was over in a very short time. A blaze of colour for a few days, a feast of Roses, and then all was over till the autumn. I remember well the Sunday next before the National, what a great quantity of bloom I had even on my wretched plants. I was able to send large baskets of Roses to my principal farmers and to all my friends, and the Sunday after I could not cut forty-eight distinct Roses, and was very hard pressed to stage thirty-six for Hereford. Mr. Baker's experience was much the same, though his blooms lasted longer than mine, but he was unable to show at Manchester on the 6th of July.

The season was one which suited Mr. Cranston to a nicety. His strong rich soil is one which can stand any amount of rain, so that the storms of May and the early part of June were a very godsend to him. "No one could come near him this year." This remark was made to me by one of his great rivals, Mr. Charles Turner of Slough, and I think most people will endorse it. Mr. Paul, it is true, did defeat him at the Royal Botanic Gardens, but this is the only time that I can recall where he was beaten at the great shows for the premier prize, for he did not show at the Alexandra.

The Crystal Palace Show was noted among other things for the advent of several amateurs who had not, so far as my experience goes, shown before at a great show. I had the privilege of judging the twelves and sixes, and I was much pleased with all the stands shown by Mr. Soames. This amateur bids fair to make it very hot for Mr. Baker and Mr. Jowitt if he goes on in the same way as he has begun.

The Teas, too, shown at the Crystal Palace by Messrs. Mitchell of Piltown, also at the Alexandra by the same firm, were the finest specimens I have seen for many years. I should have thought the Sussex soil too heavy for Teas, but Mr. Mitchell always comes to the front with them and rarely does much with Hybrid Perpetuals.

We amateurs this year did not show so well as usual. This is not my own opinion only, but that of such an experienced rosarian as Mr. George Paul. I cannot call to mind any stand exhibited in 1878 nearly so good as Mr. Baker used to show at Exeter and the Crystal Palace three or four years ago. It may be that as one grows older one expects more, but I do not think we have the intensely vivid colour that we once had. In form I think we are as good as ever.

In new Roses we are improving at a great rate. Scarcely a year elapses but each of the great Rose firms sends out one or more good Roses. If we run down the lists of Mr. Turner, Mr. George and Mr. William Paul, we shall find that at least three out of four of their seedlings have proved great acquisitions.

The success of the National Rose Society was very great both at the Crystal Palace and at Manchester; and all true lovers of the Rose must feel that this Society has already done a great work, has been the cause of the revival of Rose shows in the metropolis, and has issued a good set of rules on the important matter of judging. Much, however, remains for it to do, among other things one which has hitherto been neglected, but which formed one of the duties it undertook from the first. I allude to the matter of fixing the dates of the various shows, so that one may not clash with another. This is a very important matter, and one which ought not to be neglected. It must not be forgotten that such work as this is one of the obligations which the Society undertook, and though it may be a matter of difficulty to accomplish it, still we ought to do our best to bring it about. By the 1st of May a list of all the Rose shows should be published, and as far as possible these ought not to clash with one another.—WYLD SAVAGE.

PARSLEY IN OLD GARDENS.

It is quite a common occurrence for Parsley to fail in gardens which have been cropped with vegetables year after year for a quarter or half a century. Everyone who fails in obtaining a crop of any kind gives a cause for such failure in some shape or other, and no doubt I was like my neighbours in this as well as everything else. I tried every way that I could think of, three or four of which I will mention, and then give, in as detailed a form as I can, the plan I adopted at last by which I overcame the difficulty. It may not be anything new, but nevertheless it might by chance prove useful to some. First I trenched up an old Asparagus bed, added leaf soil, sand, and pigeons' dung. The Parsley seed germinated, but after the plants reached the third leaf they turned yellow and went off. Secondly I drew drills as if for Onions, on a fresher part of the garden as I thought. These drills were filled half full of a mixture of sandy loam, leaf soil, and a little soot, on which the seeds were sown, but with the same result as before. Thirdly, I sowed Parsley amongst the Onions, but no plants came up. Fourthly, I sowed on a prepared bed principally of small coal ashes. Abundance of plants came up, and grew pretty well until thinned, then yellowed off. Now for the successful experiment, and one which I have practised for four years without the slightest sign of failure.

My plan is to mark off a few 2-foot beds, and take the soil out of every alternate one to the depth of about 15 inches, the same as for Celery, only I wheel it away to some low part of

the garden, and fill up the trenches with alternate layers of fresh turf from the stock which is set apart for potting purposes and leaf soil—say a layer of turf 2 inches thick, and leaf soil half an inch, until the whole is filled up a little above the surrounding surface to allow for sinking. On this the seeds are sown and covered with a little fine soil about a quarter of an inch deep, then a gentle clap with the spade, and the whole is finished. A good plan is to cover the beds with bast mats in the daytime and remove them at night, particularly if the weather is dry; and this saves watering, and moreover the seeds germinate quicker. When the plants begin to crowd each other we give a good general thin-out; after is given a good soaking of water, in every two gallons of which we mix one wineglassful of paraffin oil. This destroys all insects which might chance to be in the soil, and imparts a beautiful green colour to the leaves. I have two beds of Parsley which were sown in July, and it is now a foot high, dark green, and splendidly curled. The variety is Myatt's Garnishing.—H. E. A.

LILICUM AURATUM.

THIS is undoubtedly a splendid Lily, and considering its great beauty, easy culture, and present cheapness it is marvellous it is not more generally grown. These considerations were suggested by seeing recently some splendid specimens planted and flowering in the open air at Marlfield House, the residence of John Bagwell, Esq., D.L., near this town. They were introduced a few years since by the Hon. Mrs. Bagwell, at all times a floral patroness, and planted out in a hardy Azalea bed, and have not I believe been since interfered with. As this is the season for the purchase of bulbs a few general remarks on culture and treatment will be *appropos*. Large bulbs are by many not so prized as medium-sized and well-shaped sound bulbs. I consider the deep peaty soil and leaf mould of the Azalea and Rhododendron beds tended much to produce the constant moisture around the roots, with that desirable shade of the natural habitat without which those Lilies will not come to perfection, not forgetting that long period of growth which bulbs not removed always enjoy. Some bulbs I have grown in pots and boxes could not compare with those grown in beds. The same remark applies to nearly the whole *Lilium* family, though many of them of more dwarf habit of growth and sweetly fragrant, as *L. lancifolium*, make handsome pot plants, especially when grown without forcing and for window decoration.

When intended for the conservatory or greenhouse procure the bulbs immediately—well shaped and sound; plant them in 6 or 7-inch pots for single bulbs, 8 to 10-inch pots for four bulbs, and so on proportionately. They are not fastidious about soil, but peat, leaf soil, and broken marrow bones form an excellent compost. It is important that 3 inches, or less in a small pot, should be left vacant at the top at first. Many place them away in the dark until the pot fills with roots, the same as Hyacinths or Tulips, but I have seen equally intelligent gardeners fully expose them in a frame to the light and succeed equally well. The object of leaving the space at the top is for earthing-up subsequently when the stems produce surface roots. Lilies during the period of active growth and flowering are gross feeders, and the roots should never be dry; plenty of drainage is indispensable, so as to avoid stagnant moisture. After the pots are filled with roots—not sooner—should it be considered desirable to have those ornamental plants early in bloom, they may be removed to a house where a higher temperature is maintained; if too high the stems become unseemly drawn, and the flowers last a comparatively short time. As a rule when thus grown they only suit for a handsome background, the flowers reaching outwards, and the stems, which are then rather long, being shaded by some other plants in front; yet remembering their great beauty, their time of flowering, and their fragrant perfume, no conservatory or greenhouse should be without them.—W. J. M., *Clonmel*.

PEAS IN NOVEMBER.

I FORWARD some Peas in a box of Hairs' Dwarf Mammoth. We gathered a very good dish this morning (Nov. 6th); indeed we have been gathering almost daily for a month past such as I now enclose. The Peas now producing so well were sown on June 19th in trenches of manure covered with soil. This method I find very advantageous for late Peas, securing them generally of good size and quality. Hairs' Dwarf Mam-

moth and Ne Plus Ultra do best with us. The latter sometimes makes a second growth, which is an advantage. I have sown it in April, gathered all the Peas clean off in August, and then it makes fresh growth and comes in excellent, especially should there be showery weather, which we frequently have in August. Mulchings are required in the absence of rain. I find Peas in November greatly appreciated, and consider them well worthy of the efforts made to produce them.—B. COWAN.

[The Peas received are excellent, the pods containing five and six fine Peas of full flavour.—EDS.]

A DAY AMONGST CHRYSANTHEMUMS.

CHRYSANTHEMUM SHOWS are unquestionably imposing, and are visited by great numbers of cultivators and admirers of this popular autumn flower. Thousands, however, who grow and admire Chrysanthemums are necessarily unable to visit the shows—they have to be content with reading about them, and of those a great number prefer to know something of the flowers at home—in what manner they are grown, and their appearance as arranged in the gardens where some of the prize plants are cultivated and winning blooms produced. The five collections to be briefly referred to are not selected because they are the best in the vicinity of London, but rather because they were convenient for being visited, yet all of them are so good as in all probability to secure a share of the honours that will be awarded during the next fortnight. The first collection visited was that of the Misses Christy at

COOMBE BANK.—Mr. Moorman is known as a successful cultivator of Chrysanthemums. Few gardeners know the varieties better than he does, and still fewer have such a good assortment of the Japanese section; he grows, however, equally well the ordinary Chinese incurved and reflexed varieties. The conservatory at Coombe Bank is wholly occupied with Chrysanthemums, most of them carrying prize blooms. The plants are all grown on the single-stem system, and have not been stopped. They vary in height from 3 to 5 feet, and carry about as many blooms. They are arranged on the floor of the house, the pots being placed close together, and the effect produced is extremely rich. The plants during the summer were placed in a row on the garden walk, the pots not being plunged, and no liquid manure was given before the buds were "set." Hard well-matured stems, stout but not exuberant foliage, and fine blooms are the results of that mode of culture. Amongst the finest of the Chinese section are Empress of India, grand blooms, yet very refined, and the new Golden Empress (clear primrose) is extremely well done. Very fine also are Mrs. Heale, White Queen, Mrs. Haliburton, the Beverleys White and Golden, and an improved Golden Beverley which is very rich; Aurea Multiflora, bronze and yellow Jardin des Plantes, White Globe and Barbara also all merit notice. The most striking of the Anemone-flowered varieties are Miss Ethel Boustead (an improved Lady Margaret), and Mrs. Pethers. Of the Japanese varieties, besides the pure white Elaine and the long-petalled Fair Maid of Guernsey, both fine and very useful, there are excellent examples of Emperor Nicholas, its reddish crimson petals tipped with gold; Gloire de Toulouse, free and fine; Fulton, the most brilliant yellow in its class, and for which Mr. Moorman had last year a first-class certificate; Fulgore one of the finest of the dark rosy purple varieties; Tokio and Mikado both very rich; Mons. Bijou, free, small, and brilliant in colour; Soliel Levant, very large yellow, a promising variety; also the large yellow, but not particularly attractive Peter the Great; the rich and elegant crimson and gold Madame Godillot (not a good grower), and one of the most useful of all, Triomphe de Nord. Those are a few of the more striking flowers of a very large collection, which affords sufficient evidence of Mr. Moorman's skill as a cultivator. The next collection inspected was at

KINGSTON-ON-THAMES.—Messrs. Jackson & Sons have been successful in introducing many new and good Japanese varieties, some of the more recent of which it will be useful to notice. The plants are grown similarly to those above noticed, and produce a fine display in the "show house." Harlequin is salmon pink in colour, distinct and very promising; Criterion, yellowish fawn, very large and very fine. Mons. Crousse, coral red, compact and good; Bouquet Fait, rosy pink, semi-quilled, attractive; Mons. Ardene, satiny rose suffused with lilac, flower 6½ inches in diameter, a fine acquisition; M. de Leaux, crimson red, yellowish centre, very large and deep; Mdle. Mouise, creamy white, distinct and very

good; La Frissure, bright rosy pink pretty crisped petals, free; Gloire de St. Martin, rose centre, changing to white with age, striking; Jane Salter, white petals, suffused and margined with lilac, chaste; Madame Lemoine, chestnut and gold, bright and promising; Madame Rendatler, salmon, broad petals; La Nympe, rose, small, free, and chaste; Jean de Leaux, after the style of Triomphe de Nord, yet distinct; Nuit d'Hiver, bright chestnut, gold tips, very large and fine; Fulton, Fulgore, and Red Gauntlet are all excellent; and Peter the Great has blooms perfectly incurved, which is remarkable for a Japanese variety; when not incurved the flowers are not attractive. Messrs. Jacksons' collection is both attractive and instructive.

CANNIZARO HOUSE.—This is the residence of J. Boustead, Esq., Wimbledon Common. Mr. Jordan, the gardener, is a skilful cultivator, and this year he has produced a display of Chrysanthemums of rare excellence. The plants are grown after the same manner as Mr. Moorman's—that is, they have never been stopped. It is evident they have had generous treatment, for they are remarkable for stout growth, rich green foliage, and grand blooms. Incurved and Japanese varieties are alike fine, and, if Mr. Jordan exhibits, those who defeat him will well deserve their honours. Although the plants have never been stopped they do not convey the slightest suspicion of "lankiness," many of them not exceeding 3 feet high; some are of course taller, but their general robustness obscures their height. Amongst the incurved varieties the following are remarkable for their size and high finish:—Leon Leguay, splendid; bronze and yellow Jardin des Plantes, Prince Alfred, White Beverley, all excellent; Dr. Sharpe, remarkably fine; Empress of India, Mr. Gladstone, rich; Mrs. Cunningham, a grand white; Mrs. G. Rundle, G. Glenny, and Mrs. Dixon. The finest Anemone is Miss Ethel Boustead, raised from seed from Lady Margaret, and considered superior to that variety. It is certainly fine, but whether really distinct can only be determined by actual comparison of the two when equally well grown. Of Japanese the old Triomphe de Nord is in grand condition, the blooms exceeding 6 inches in diameter. This Mr. Moorman states is the first Japanese Chrysanthemum that was introduced, and was originally classed by Mr. Salter as a reflexed Chinese variety; but if Elaine is a Japanese Triomphe de Nord cannot be excluded from the same section. It is a variety that all should grow. Equally fine in its way is Garnet, large, rich, full, yet elegant. Chang is remarkable for its singularly curled broad petals, exactly resembling mahogany shavings. Elaine, Fair Maid of Guernsey, Fulton, Fulgore, and Gloire de Toulouse all command attention, and some of the newer varieties are in admirable condition. Last year Mr. Jordan had to send plants to Wales to give an "object lesson" to some gardeners in the principality; this year the plants are equally good—are, in fact, splendidly cultivated.

BELVIDERE.—The large and good garden of L. Schlusser, Esq., is also at Wimbledon, and the gardener, Mr. Lyne, is admittedly one of the best gardeners in the district. He, like Mr. Jordan, has a splendid display of Chrysanthemums. Both in regard to excellence of culture and varieties they so closely resemble those above referred to as not to need a detailed notice. Mr. Lyne, however, stops his plants once, but they are not dwarfer than Mr. Jordan's, nor are the blooms finer, nor can it be said they are inferior, but are remarkable for their size and excellent finish. Mr. Lyne also grows Pompons well both as standards, pyramids, and bushes, and can, if disposed, arrange a group that his competitors would rather see "at home." It is an admirable collection.

TULSE HILL.—Of a different style of culture are the plants belonging to W. Stevens, Esq., at Springfield, and produced by the accomplished specimen grower, Mr. Hall. When these remarks are being read by the public on Thursday the 14th, the plants will be staged at the Brixton Show, and on their account alone, whether they win a prize or not, the Show will be worth seeing. They will also in all probability be staged at the Westminster Aquarium on the 19th inst., so that those who cannot see them at Brixton may see them in London. In growing Chrysanthemums Mr. Hall adopts the wise plan of growing a few plants well rather than a great number indifferently. For instance, he started with twenty-five plants, and twenty-one of them were worthy of a place in any exhibition. Perhaps the specimens of the large-flowering varieties are the more striking. They are in 11-inch pots. Larger plants have been grown, but rarely have specimens of higher quality been exhibited. Mr. Brunlee, Mrs. Haliburton, and

Faust are magnificent. The plants average about fifty blooms of high exhibition quality disposed with mathematical precision over the rich masses of foliage, which show them to such great advantage. The blooms are not more than 18 inches from the surface of the pots, and in form the plants resemble well-grown Pelargoniums. Mrs. G. Rundle, Mr. G. Glenny, Mrs. Dixon, and Lady Talfourd are also very fine. No other than the varieties named are grown in this section; but they are finished in a manner that places Mr. Hall high on the list of the best cultivators of the day. Like other really competent men the grower is "no churl," and in the *Journal* of December 7th, 1876, will be found a detailed account of how such plants are produced; the plant there figured, however, good as it is, is quite eclipsed by the specimens of the present year. The Pompons—standards, pyramids, and "flats"—are also remarkably well grown and trained. The former, Antonius, Calliope, and Mdlle. Marthé are on stems nearly 3 feet in height, and have well-formed heads about the same in diameter. Pyramids are also remarkably well formed and flowered, and the "flats" are not monstrosities trained pancake fashion, but are flattened half globes, good in foliage and blooms, excellently grown and admirably trained.

STORING POTATOES.

MR. TAYLOR'S notes on page 343 are seasonal. As a practical man he recognises the importance of selecting and carefully storing the seed tubers. That, I am of opinion, is of much greater importance than the change of seed so often recommended. This is just the time of year when seed Potatoes require special attention. The early sorts, especially if they have been stored in tolerably thick heaps, will now have commenced growing; and when once that is the case it is surprising how rapidly the sprouts elongate in their too often vain efforts to obtain light and air. If immediately the eyes are observed swelling the tubers are piled singly, as suggested by Mr. Taylor, in a light and cool place, where they are safe from frost, the eyes will move very slowly, and will attain great strength during the winter months. For more than twenty years I have adopted that plan with early Potatoes, and I have not in that time had a change of seed of what I deem the best variety; neither do I think I shall require a change if I grow it for twenty years longer, for it is certain that it crops fully as well as ever it did.

I have just been placing the tubers in their winter quarters. They have hitherto been in a dry shed, but are no longer safe there, and the swelling eyes too now require light—not the full clear light required by plants, but a subdued and moderate light, such as the light of a room. In a room lighted by side windows many tubers are placed in trays and on shelves, and others are placed in a pit where Geraniums are wintered, the tubers being placed (not spread anyhow) with their growing ends uppermost on the stage between the pots of Geraniums. By no other means known to me could that space be so well utilised. The tubers do no harm whatever to the Geraniums, nor the Geraniums to the tubers. A valuable variety of early Potatoes is well worthy of this care, and the tubers occupy their space quite as profitably as the Geraniums do theirs. The pit is not intended for ornament but for use, and is seldom entered by the family; yet I observe, if they do enter it, it is quite as much for the purpose of seeing the Potatoes looking, as they say, "so comfortable," as for inspecting the plants. My advice to all is, Look now to the early Potatoes, and store where they will improve, not deteriorate; for no more valuable crop than this is grown in any garden.—OLD ASHLEAF.

ROSE SHOWING.

Now that the National Rose Society have held their preliminary meeting and have settled the dates of the next year's shows, and we may suppose the various committees are thinking about the forthcoming schedules, will you kindly again allow me a little space to speak about classes for residents within a short distance of London and our other large cities?

Last season the plan was partly carried out by the National Society providing a class of this description for amateurs, but still the suburban nurserymen were left out in the cold. I do not remember any remark as to the corresponding class at Manchester, but it was said that the class for suburban-grown Roses at the Crystal Palace was almost a failure, the competition being very limited. The reason of this was, I believe, that the idea was a novelty, and scarcely anyone knew of it.

Several of my own friends were kept from exhibiting in this way, and as I did not obtain a schedule until two days before the entries closed I did not know myself if there was to be such a class or not. I know of plenty of amateurs in the suburbs of London who will be glad to compete next year if it is known beforehand that there is to be a class expressly for them, and so I want to ask that there may be a word about it in the advertisement that appears in the *Journal of Horticulture* some months before, so that we may prepare for it. And cannot we have a class of twelve blooms as well as six, and a small one, say of twenty-four singles, for the hard-working suburban nurserymen? If so, I believe such firms as Cutbush, Chamberlain, Ware, and others would gladly compete; but now if spoken to about it they say, "Oh! it's no use our competing with the great guns who generally show; they have ten times the number to select from, and far more favourable circumstances." If this plan were adopted I think the Rose would be in an exhibition, as well as other senses, the national flower indeed, but now it is merely a question of first, second, or third between about half a dozen nurserymen and the same number of amateurs, at least so it appears to the non-exhibiting but Rose-growing, Rose-loving public, and to—A LOVER OF ROSE SHOWS.

DRESSING CARNATIONS.

MR. DOUGLAS on page 347 attributes to me an unworthy motive, stating that my only object in raising a discussion is to "wound the feelings of a successful exhibitor." Why should I attempt to "wound" one with whom I have never competed and against whom I have not the slightest cause for enmity, or why should I write recklessly against those whom I have never seen? I did not assail the honour of Mr. Douglas in any way: on the contrary, I said that I did not for a moment suppose that he would do anything he thought was not right. But what he considers right others may deem wrong: hence the necessity for discussion. Mr. Douglas may not consider it wrong to have an expert to dress his flowers for him, and in that case he need not have been ashamed of answering the questions asked; but equivocation gives rise to unpleasant thoughts. I am told it is best to write to the secretary on the point at issue. Mr. Douglas must permit to say that he is hardly in a position to give me advice on the subject. What may be "best" for him may not be "best" for me; I therefore adopt my own course. As to the gentlemen named by Mr. Douglas not complaining, I have simply to say that it was not on their behalf that I wrote. There is yet a question I am requested to answer—namely, why Mr. Douglas defeated Mr. B. Simonite? I presume it was because the loam and air of Loxford are better for the flowers than those of Sheffield. I have had bitter experience of growing flowers on the skirts of a town only a little less black than Sheffield, and I am far more surprised at the cutler florist's success than I am at that of Mr. Douglas.

But the real point at issue must not be lost—scent must not be diverted by Mr. Douglas drawing a red herring across the track. The question is, Has not Mr. Simonite visited Loxford and dressed Mr. Douglas's flowers and thus aided him in winning prizes? If it is legitimate for great growers and dressers to unite their efforts to secure prizes it is only right and fair that the world should know it. It cannot be fair for such practices to be conducted clandestinely, and no exhibitor of repute can permit such a suspicion to attach to his name.

Some years ago when Mr. Douglas was defeated by an exhibitor of Hyacinths who had been aided by another in producing the prize plants your correspondent had justice on his side when he exclaimed, "The hand of Douglas is his own," &c.; but when he aids another to obtain a prize for Hyacinths, as he admits having done—for he has stated plainly that if "he had not dressed them they would have had no place in the prize list"—then even he must see that his words and acts contradict each other, and the public naturally ask for an explanation. I submit, and I know I am not alone, that the practice of one man aiding another to obtain a prize in whatsoever way it is done, whether by dressing Hyacinths or Carnations, is reprehensible. Overwhelming evidence has been afforded of the effect of dressing flowers in obtaining prizes; therefore at the least every exhibitor ought in common fairness to dress all his own flowers.

It appears to be convenient to Mr. Douglas to take no notice of anonymous writings. So be it, that does not affect me. So long as "WYLD SAVAGE'S" suggestion and my direct

question remain as they are, readers will form their own conclusion.—A STAFFORDSHIRE GROWER.

"C." SAYS (see page 352) it is "utterly incorrect" that I dressed certain Hyacinth spikes, but he says he "saw me lifting up the bells." Well, then, lifting up the bells is dressing Hyacinths. They must not only be lifted up but they must be evenly distributed over the spike, and they must be placed in such a position that they cannot fall down again. It takes longer to dress a spike of Hyacinths in that way than it does to dress two or three Carnation flowers, including placing them on the cards. As to whether the dressing improved the flowers in question, that is another thing. "C." says it did not—that it rather spoiled their appearance. With the other exhibitors I believe that dressing Hyacinths improves them for exhibition, just as it improves Carnations for the same purpose. It is five or six years since this case occurred, and I had nearly forgotten this fact until "D., Deal," asked the question, Whether, if one man dressed a stand of flowers and another grew them, who should be awarded the prize? Now I submit "D., Deal," should be able to answer that question, as they were his flowers that I dressed in the same way that I had previously dressed my own, and which also gained the first prize in a higher class on the same day. As to the question whether it is right for one exhibitor to help another there will always be difference of opinion. I have seen an exhibitor so hard pressed for time that, if he had not had some extraneous aid, his plants and flowers would have been left in confusion on the stage; and this, not because the exhibitor tried to do too much, but because you can seldom stage your plants or flowers when you are ready to do it. For my own part I do not care whom my opponents have to help them to stage their flowers, because the better they are staged so much more will the credit of this redound to the exhibitors as a body. It is also a fact that the system of florists aiding one another serves to promote that "utter abandon of good fellowship" alluded to by "A. G. S." last week, and that letters such as have recently been written serve only to engender discord. I number amongst my most intimate friends all the principal growers of florists' flowers north and south. They are at one with me as a grower and an exhibitor. I value the approbation of those men, and care not for critics who write for no useful purpose under anonymous signatures.—J. DOUGLAS.

[The question of one grower dressing the flowers of another opens a new phase in exhibiting and affords a fair subject for discussion. Such discussion can and ought to be conducted without acerbity. We have eliminated some remarks from the communications of both of our correspondents that did not bear immediately on the subject at issue, and which (we believe unintentionally) were calculated to cause pain and to provoke unpleasant replies.—EDS. J. OF H.]

CHRYSANTHEMUM SHOWS.

LAMBETH, PUTNEY, AND STOKE NEWINGTON.

LAMBETH.—Our notes on Chrysanthemum meetings commence with the Borough of Lambeth Chrysanthemum Society's Show, which was held on the 11th inst. This Society has not a long list of vice-presidents, patrons, &c., but is governed by men who, while following their daily avocations in the mill, factory, or workshop, possess that enthusiasm to grow their flowers in their spare hours in the midst of dingy courts and small backyards, hemmed-in on every side by bricks and mortar, and where the atmosphere is as thick and gloomy as in any part of our great metropolis. The plants and flowers are exhibited in a manner that is almost incredible, considering that the conditions are that "all plants and blooms shown for competition must be grown within a radius of one mile from the Elephant and Castle, Newington"—"That all blooms shown at this Society's exhibitions be shown as grown, and any exhibitor staging blooms with the flowers dressed artificially shall be disqualified from competition in all classes he may be exhibiting in." Such, then, are the conditions which this little band of workers have framed to guide them. The schedule of thirty-seven classes is so admirably arranged that we commend it to societies as a pattern; in fact, the whole working and management of this Society may be held out as a model worthy of imitation by societies of much larger pretensions. Every section of the Chrysanthemum is here encouraged by prizes similar to the following example: Twenty-four incurved blooms, distinct varieties, twelve ditto, six ditto; twelve of one variety, and six of one variety; also specimens, standards, pyramids, dwarfs, incurved, Anemone, reflexed, Japanese, and Anemone Pompons, are all encouraged in a similar manner. Uniformity and neatness exist throughout the Show—

the boxes are of one pattern and size, the labels are neat and written in one handwriting, and the cards indicating the prize-winners are neatly arranged at the back of the boxes with little clips to keep the cards erect. If the description of the class to which the prize is awarded was written under the prize ticket it would give additional interest to those exhibitors who are not familiar with the classes, otherwise the arrangements are almost faultless.

Mr. Summers has not only proved himself a gentleman of admirable organisation, but is a capital grower of both Japanese and incurved flowers; and in his collections there were many grand blooms, particularly among the Japanese. A bloom of Madame Godillot was the finest bloom in the whole Show, and acknowledged by many practical growers to be as fine a bloom as has ever been shown of that fine variety. Other good blooms in his collection were Gloire de Toulouse, Peter the Great, The Cossack, Fair Maid of Guernsey, Hero of Magdala, and Blanche of Castile. Although this collection was awarded the first prize Mr. Summers waived his claim in favour of Mr. Crisp, as his new residence is just outside the stipulated radius. In Mr. Crisp's collection Dr. Masters, Red Dragon, and Fair Maid of Guernsey were very good. Mr. Clark was second, and Mr. Addison third, all showing well. For six blooms Mr. Addison and Mr. Best shared the honours between them. The first prize for the best stand of six blooms of one variety was awarded to Mr. Best for Elaine, the second prize to Mr. Clarke for Fair Maid of Guernsey, and the third to Mr. Addison for James Salter. For twenty-four incurved varieties Mr. Wilsher secured the first prize and Mr. Best the second; and for twelve blooms, distinct, there were nine collections staged, Mr. Addison being placed first, Mr. Wilsher second, and Mr. Ball third. For six blooms, distinct, there were fifteen collections; Mr. Ball was placed first, Mr. Addison second, and Mr. Fill third. Mr. Ball was placed first for six blooms of one variety—Mrs. Dixon, Mr. Addison second with an old variety named Bella Donna, and Mr. Wilsher third with Gloria Mundi. Messrs. Fill and Crisp exhibited large-flowering Anemones, and the prizes were awarded in the order named.

Standards and pyramids were very neatly grown and trained by Messrs. Wilsher, Fill, and Clark, who obtained the lion's share of the prizes, and to whom great praise is due for the masterly manner in which the plants were grown, especially the ten plants trained by Mr. Fill, who was awarded three first prizes for them, and also obtained three other first prizes for cut blooms of Anemone Pompons.

Bouquets of Chrysanthemums were admirably arranged, especially the one to which the first prize was awarded, small buds being tastefully introduced between the flowers.

This was altogether a most attractive Show, and we congratulate the Hon. Secretary and his Committee on their well-won success.

PUTNEY.—During the spring of the present year a meeting was convened under the presidency of Baron Pollock, when the Putney, Fulham, and Wandsworth Chrysanthemum Society was formed, with the object of "stimulating the culture of fruits and flowers, and especially Chrysanthemums." An influential list of patrons was secured, a practical committee formed, and subscriptions collected, the latter being sufficient to cover the expenses of a show without depending on door money (a wise provision). The first Show was fixed for and duly held on the 12th inst. in the new Assembly Rooms, Putney. The schedule contained fourteen classes for Chrysanthemums, five for stove and greenhouse plants, and seven for fruit. The room was quite filled with the competing collections, which were generally of excellent quality so far as regards plants and flowers, but the fruit department was somewhat weak.

In the class for a collection of Chrysanthemums arranged for effect Mr. Harding, gardener to T. D. Galpin, Esq., Bristol House, Putney Heath, easily won the premier prize with vigorous plants carrying fine blooms. Mr. Andsell, gardener to G. Reid, Esq., Coombe Villa, was a good second; and Mr. Kendall, gardener to D. B. Chapman, Esq., Devonshire House, Roehampton, third for plants in which white stakes were fully too prominent. Mr. Pithers, gardener to C. F. Williams, Esq., Munster House, Fulham, was first in the large-flowered single specimen class with Mrs. G. Rundle—a half globe $4\frac{1}{2}$ feet across, and having about 150 blooms. Mr. Whittaker, gardener to S. Williams, Esq., was second with a smaller but admirably grown plant of Mrs. Dixon. Mr. Whittaker was first for six and four Pompons, and for a single specimen, with plants 2 to 3 feet across and excellently grown, also for four large-flowering plants in this class, Mr. Harding being second. Mr. Pithers was a good second for six Pompons.

Cut blooms were remarkably good—large and well finished, and had received little or no dressing. Mr. Harding was placed first for twenty-four incurved with a smart and excellent collection. Mr. Holmes, gardener to G. M. Story, Esq., who was second, was only a few points behind. Mr. Handley was third, his blooms being a little irregular in size, and an extra prize was awarded to Mr. Whittaker. The class for twelve blooms gave the Judges much trouble, and it was only by careful point-judging that the relative

positions of the collections could be determined. Mr. Harding and Mr. Bentley, gardener to Sir Thomas Gabriel, were equal firsts, Mr. Handley second, and Mr. Holmes third. All the blooms were good, those in the premier stands being of great excellence. For sixes the prizes went respectively to Messrs. Harding, Handley, and Kendall, and the Japanese to Messrs. Bentley and Kendall, all exhibiting well.

Mr. Pithers received the first prize for four stove or greenhouse plants with an excellent Eupatorium, a capital *Latania*, a good *Croton*, and a large and well-flowered *Salvia splendens*. Mr. Kendall was second, his noteworthy plant being *Vesuvius Geranium*, 5 feet across, dwarf, and well flowered. Messrs. Kendall, Milner, Distillery House, Wandsworth, and Pithers had the prizes for table plants, all being good, the first-prize collection especially so. The groups of plants (the prizes given by Mr. Stevens, St. John's Nursery, Putney), were remarkably good, the prizes going to Messrs. Kendall & Pithers, Mr. Whittaker's collection being highly commended. The plants were extremely clean, fresh, and well cultivated. Mr. Pithers had the first prize in the Miscellaneous class for a splendid collection of *Solanums* and good *Lycopods*, and Mr. Kendall the second for excellent stands of *Anemone Chrysanthemums*. Ferns were exhibited well, the prizes going to Messrs. Handley, Green, and Kendall, and Mr. Whittaker was first for small but well grown and flowered *Geraniums*, Messrs. Kendall & Handley won the prizes given by Mr. Moore, Richmond Nursery, Putney, for bouquets, which were very good, and a large group of *Chrysanthemums* and other plants arranged by Mr. Stevens were highly commended.

Mr. Martin, gardener to J. L. Ridpath, Esq., Devon Lawn, Wimbledon Park, secured the first prize for black Grapes with excellent Black Hamburgs, Mr. Milner being second with good *Alcantas*. Mr. Milner was first for *Muscats*, and Mr. Andsell second. Kitchen Apples were good, Messrs. Kendall, Milner, and Andsell being awarded the prizes. Mr. Maskell was first in the dessert class, and Messrs. Andsell and Milner had the remaining prizes. One very good collection was passed owing to the fruit having been polished, and was too greasy to be placed on any gentleman's table.

The Show was well managed by Mr. Moore, the Secretary, and was highly creditable to both officers and exhibitors. G. H. Pitt, Esq., an excellent supporter of the Society, presided at the luncheon, and the Society's first Show was as pleasant as it was successful.

STOKE NEWINGTON.—This old-established Society well sustained its renown by the great excellence of both plants and blooms staged in the Assembly Rooms on the 12th and 13th inst. We are only able to give a brief notice of the Exhibition. For the best collection of ten *Chrysanthemums* Mr. Monk, gardener to H. Head, Esq., Stamford Hill, secured the first prize and silver cup with exceedingly well bloomed plants of *White Venus*, Lord Derby, *Venus*, Mrs. Dixon, *Rifeman*, Prince of Wales, Mrs. G. Rundle, and *Pompons* Mdlle. Marthé, St. Michael, and a very beautiful plant of *White Cedo Nulli*. Messrs. Levesley & Co., Isleworth, were placed second with plants somewhat larger, but not so evenly trained and bloomed as the first-prize collection. Messrs. Dixon and Co. exhibited some immense plants in this class, but were disqualified on account of size of pots.

Pyramids of both the large-flowering varieties and *Pompons* were contributed by Mr. Prickett, gardener to Mrs. Bowerbank, Stoke Newington Green; Mr. Langdon, gardener to Dr. Munro, Brook House, Clapton; and Mr. Holmes, gardener to J. Hicks, Esq., Manor Lodge, Clapton, who share the prizes between them. Flat-trained *Pompons* were numerous exhibited. The first prize was worthily awarded to Mr. Monk for plants exquisitely bloomed and trained; Messrs. Levesley & Co. were placed second for larger plants, but wanting in finish; and Messrs. Dixon & Co. third with a remarkably even lot. Mr. Monk also obtained other first prizes for smaller-grown specimens.

The competition in the cut-bloom classes was very keen, and with very few exceptions the blooms were excellent. Mr. Langdon exhibited the best twenty-four in the Show, having beautifully grown and neat blooms of Mr. Brunlees, Empress of India, John Salter, *Jardim des Plantes*, *White Venus*, *Barbara*, Mrs. Heales, Mrs. Dixon, *Eve*, *Golden Eagle*, Rev. J. Dix, *Princess of Wales*, Prince Alfred, *Nil Desperandum*, *Aurea Multiflora*, Baron Beust, *Enamel*, *Lady Hardinge*, Mrs. Haliburton, Antonelli, Mrs. G. Rundle, *White Beverly*, and *Golden Eagle*. This collection secured the much-coveted silver cup. Messrs. Dixon & Co. were awarded the second prize, and Mr. E. South third. The best stand of twelve blooms came from Mr. Butcher, gardener to F. D. Lambert, Esq., Holly Lodge, Stamford Hill; Mr. Holmes being second, and Mr. Pricknell third. Mr. Butcher won first prize also for six blooms. F. J. Godwin, Esq., Downs Park Road, secured the first prize for twenty-four blooms among the amateurs; and Mr. Clark, Roehampton, was first for twenty-four in the open class, Messrs. Garraway & Son, florists, Bristol, running him very close for second honours. Messrs. Garraway were a long way ahead in the class for Japanese varieties, and in their collection they exhibited two of the finest blooms we have yet seen of a variety recently sent out by Lemoine named *Madame*

Berthier Rendatler. The pressure of visitors round the stands prevented us obtaining the names of the varieties. Messrs. Garraway also secured first honours in the open class for twelve and six blooms, which were both large and of good quality. Many other successful exhibitors deserve mention as having contributed well to this very meritorious Show.

NOTES AND GLEANINGS.

At the Royal Horticultural Society's Meeting next Tuesday there will be a fine display of *CHRYSANTHEMUMS* from the most noted growers, and a grand exhibition of vegetables is expected in competition for the prizes offered by Messrs. Carter, Sutton, and Hooper. Messrs. J. Veitch & Sons will by special request again exhibit an extensive collection of winter bedding plants similar to that which excited so much interest at the last meeting.

COMPLAINTS are frequent of the FAILURE OF CARROTS, especially when grown in the rich light soil of gardens which have been long under cultivation. Various modes of preventing the grub have been from time to time recommended, but still it remains almost as destructive as ever. Last week, however, we saw an instance of a splendid bed of Carrots produced in the simplest possible manner in a garden where it is utterly impossible to produce useable roots according to the ordinary mode of sowing the seed in April or May. The crop referred to is in the gardens at Belvidere, Wimbledon, and occupies the south border on the site where early Peas were grown. The Carrot seed was sown in July, and a finer crop of Early Horn (the roots being clean, handsome, and of the correct size for cooking) we have never seen. Previously to adopting the present practice Mr. Lyne was quite unable to produce clear roots, dress the land as he might; but by sowing in July he finds no crop more certain than that of Carrots. The same mode is adopted by other gardeners in the district with the same good results. The plan is worthy of trial by all who experience difficulty in growing this important crop. When sowing thus late it is necessary to grow early varieties, which are the best for table use.

At the ONION SHOW held at Limefield, near Bury, Lancashire, on the 5th October, Mr. Robert Houseman exhibited five Onions weighing 143½ ozs. There were two white and three red Onions, the heaviest being a red one weighing 34 ozs. It was 5½ inches across, 18 inches round, and 6 inches deep. The other reds weighed respectively 28½ and 27½ ozs. The two whites were respectively 27 ozs. and 26½ ozs. These Onions were all shown without their blades. The seed, which was of his own saving, was sown in February last, and the plants planted out in May.

We last year referred to some fine trusses of flowers of the brilliant scarlet *CLERODENDRON SPLENDENS* grown by Mr. Jordan at Cannizaro House, Wimbledon. We have recently seen the plant that produces a large and valuable supply of such trusses throughout the winter, and it is eminently deserving of notice, suggesting, as it does, how well the back wall of a stove may be occupied. The plant is planted out, and is trained on the wall of a lean-to plant stove about 20 feet long and half as much high. Every portion of the wall is covered with glossy foliage, and hundreds of rich trusses of flowers are just expanding. The plant continues producing trusses throughout the winter, and affords an abundant supply of cut flowers, which are justly esteemed for the decoration of vases. It is a long time since we saw the back wall of a stove utilised more profitably and attractively.

A NOTE from Northumberland informs us that *Ageratums*, *Calceolarias*, and *Vesuvius Geraniums* are still very fine there, especially *Ageratums*. *Dahlias* at the beginning of the present week retained their freshness. Snow had not then fallen, nor had the thermometer gone down to freezing point.

MR. WILLS has had printed a letter to Her Majesty's Commissioners for the International Exhibition, suggesting that a building for a COLONIAL MUSEUM for London should be erected at the south end of the Royal Horticultural Society's garden at South Kensington.

"M. M. S." recommends the following plan of PRESERVING SOFT FRUITS FOR WINTER USE which she has adopted for some years, and if the directions are properly carried out the fruit when used has quite the flavour of fresh fruit. The plan is this:—For Gooseberries, Currants, Damsons, &c., to each 3 lbs. of fruit add 1 lb. of loaf sugar, and one teacup of water to each pound of fruit. Put all in a preserving pan, and

let the ingredients come to boiling point. Have ready jars or bottles in which sulphur has been burnt for fifteen minutes. When the fruit is cold, pour on the top some hot mutton fat; then tie down with bladders, and keep the jars in a dry cupboard. Raspberries and Currants do not require so much water as stone fruit.

— THE new Orchid *DENDROBIUM SUPERBIENS* proves to be a valuable addition, for besides its handsome spikes of richly coloured blossoms, lasting as they do individually nearly three months in perfection, it appears to flower very freely. At Mr. William Bull's establishment a dozen fine spikes will be in bloom shortly, some of them with as many as twenty flowers on a spike.

— WEST OF SCOTLAND ROSARIANS' SOCIETY. — The annual meeting of the West of Scotland Rosarians' Society was held recently in the Oddfellows' Hall, Colquhoun Square, Helensburgh. There was a good attendance of members, including many of the most enthusiastic rosarians in the district. Mr. Galloway (of Messrs. Galloway & Graham) was called upon to preside. The annual report of the Society was read by Mr. John Mitchell, and the Treasurer's report by Mr. Barron, both of which were of a highly satisfactory nature, and, as usual, the reports were ordered to be printed and circulated among the members. Owing to the unprecedented success which has hitherto attended the exhibitions of the Society, and taking into account the liberal and hearty support which has uniformly been given to it by the inhabitants of Helensburgh and Gareloch, as well as by many patrons in other parts of Scotland and England who interest themselves in the cultivation of the Rose, the meeting unanimously resolved that the next Show should be held at Helensburgh in July, 1879. The schedule of prizes to be competed for on that occasion will be published with the annual reports probably about the end of December. The following are office-bearers elected at the annual meeting of the Society:—President, John Stuart, Esq., Provost of Helensburgh; Vice-Presidents, Alex. Barrow, Esq., Gowanlea, and John Few, Esq., Elmwood; Secretary, Mr. James Spalding, Princes Street; Treasurer, Mr. John Mitchell, Charing Cross, Helensburgh. Four Directors retire annually by rotation, of these three were re-elected—viz., Messrs. George Galloway, Irid Holm, Helensburgh; Daniel McLean, West Shandon; and Harry Lister, Inshalloch, Row; the only new Director being Mr. David Roberson, Helensburgh. The usual votes of thanks were cordially awarded to the Secretary and Treasurer for their services during the past year, and also to the Chairman.

— "C. T." writes from the neighbourhood of Petworth, Sussex: "Can any correspondent of the Journal say what is the largest *EUCALYPTUS GLOBULUS* growing in England out of doors? There is one here in West Sussex growing on the north-east side of a high wall; this winter will be the fourth it has been out in the open ground without any protection. It was 3 feet high when planted and is now 17 feet high, and at $1\frac{1}{2}$ foot from the ground the stem is 9 inches in circumference. As yet it has not flowered."

— HOUSE-TOP GARDENING.—We learn from the *City Press* that "some Maize (or Indian Corn) has recently been successfully cultivated by Mr. R. Oastler on the top of the house of Messrs. Jackson & Sons, 17, Sun Street. We have seen a couple of the spikes or ears, and one of them is remarkably well formed and full. This is the second attempt made by Mr. Oastler to raise Indian Corn on the top of a house, the first not having been successful; but the holder of several prizes from the City of London Flower Show was not to be deterred by a first failure, and he tried again and succeeded. During the past season we have seen some fine specimens of Figs, Strawberries (from the top of a warehouse near Cheap-side), and Grapes all grown in the City; and we believe Cherries have also grown and ripened 'within the walls.'"

GRAPES DECAYING.

NOVEMBER is generally admitted to be about the worst month in the year for keeping Grapes. With heavy autumn rains outside, and leaves decaying and falling inside, it is no easy matter to keep the atmosphere of a vinery dry, especially where the roof is not good and the heating power or drying agent deficient.

Few Grapes will decay if the air about them can be kept dry, except when the fruit is not well ripened.

As a first prevention of decay let every bunch be looked

over every day, and any berry showing the slightest sign of mould be promptly cut out. One decaying berry will often cause half a dozen others to decay in a single night; and if the weather be damp this half dozen will spoil the entire bunch in a couple of days. Another good plan is never to allow any decayed leaves to touch the berries or to lie long in the house. We are so particular about this that we pull off nearly all the leaves at the present time just before they fall.

When plants have to be watered in vineries it should be done in the morning, and, if possible, on fine days, when the ventilators at back and front can be left wide open for some hours afterwards. Ventilating to any extent should only be done on fine days, but unless the atmosphere is very dry the top ventilators should never be quite closed. When this is done, even during the night a dampness rises in the house and settles on the Grapes, causing them to decay rapidly. A little dry fresh air keeps the atmosphere clear and in motion.

When fires are employed to dry the house the temperature should only be raised to any extent on fine days, when the ventilators can be fully opened. A fire twice a week should keep a well-glazed house dry. To keep the pipes hot continually about this time is only a waste of firing. Those who have not thinned their bunches sufficiently will observe that where the berries are closest damping is worst. This should be a lesson to be remembered next year at thinning time.—M. M.

SCOTTISH HORTICULTURAL ASSOCIATION.

THE monthly meeting of this Association was held on the 5th inst. at 5, St. Andrew Square, Edinburgh. There was a large attendance, over a hundred members being present. It being the annual meeting of the Scottish Arboricultural Society many foresters attended. The President occupied the chair.

Mr. C. S. France read a paper on "Ornamental Planting." He said that the planting of trees was a science, and had been so from an early date, it having engaged the attention of the Greek philosophers. For embellishing rural scenery with the best objects of Nature they were indebted to Kent in the beginning of last century for having been among the first to lay down principles for guidance of the planter for landscape effect. He also touched upon the part which Bacon performed in realising the true beauties of the garden, spoke of the proper distribution of trees, and referred to the particular schools of landscape planting and their various peculiarities. The principle underlying the styles of the different nations was found in the outward features of each country. The primary rule to follow by all planters for effect was to imitate Nature. To have unbroken plantations and at other points vistas, so as to make the ground appear as large as possible, was an important principle to be borne in mind by all who plant to improve the beauties of the landscape.

Mr. Alexander Mackenzie read a paper on "Early-flowering Pelargoniums." He described the mode of propagation from cuttings and from roots which he adopts in the Warriston Nursery, and explained the treatment followed by him in every particular, from the cutting pot to the flowering specimen plant. The result of Mr. Mackenzie's culture of this valuable plant was that he had a house of them in excellent health bearing a profusion of bloom for twelve or thirteen months, a result which he could not produce with any other plant. The principal sorts of his collection were the following:—Madame Toulepeon, Digby Grand, Madame Lemoine, Triomphe de St. Maud, Bridal Bouquet, Annie, Fire King, Mrs. Bradshaw, Magnet or Marchioness of Lothian, Grandis, Floribunda, and Red Gauntlet.

Mr. James Gordon also read a paper on the "*Osmunda regalis*" in its native habitat at Camstraddan, where many acres of this much-prized Fern were to be found. He stated the different conditions under which it luxuriated on the banks of Loch Lomond, the fronds attaining the length of 6 feet.

Messrs. Dickson & Co. exhibited flowers of the *Schizostylus coccinea* fully expanded, growing in the open air, and blooms of *Veronica speciosa* and *Violas Golden Gem* and *Lilacina*. Messrs. Todd & Co. showed flowers of the crimson East Lothian Stock. Mr. Henry Kintoul sent blooms of *Vallota purpurea* in great beauty at this season, and Mr. Chisholm sent some Gooseberry roots infested with a parasite. Mr. George Donaldson sent a new seedling late kidney Potato, which was highly commended by the New Vegetables Committee.

TOMATOES.

I QUITE concur with Mr. Harding respecting the advantage of growing Tomatoes against walls. For the past five years I have grown Tomatoes under glass and in the open for market. Last year I planted about two hundred plants against a south wall, and I had not a dozen diseased fruits to the hundred. The variety was an old one, name unknown. Up to the last two years I have been very successful, but this year and last

the crops have been nearly a failure. Last year I lost all except those I planted against a wall. This year on June 1st I planted two hundred plants, half of them in the open and the others in frames. For the first four or five weeks the plants in the open and tied to stakes grew remarkably strong, having every attention they required. On August 12th I noticed just as they began to colour the disease also appeared on some of the finest fruit. All the plants were strong and healthy. Out of fifteen bushels gathered there was not more than one bushel saleable. Those planted in the frames fared but little better, although every care was taken to keep them as dry as possible. Several other growers in the neighbourhood were in a similar position; one in particular planted about four thousand plants in the open field, and the lot was quite a failure. Can anyone of your readers inform me if plants plunged in pots will prevent disease, the growths being trained on a trellis either in a house or frames?—**AMATEUR.**

THE EUCALYPTUS IN ALGERIA.

I HAVE seen an interesting notice of the growth of the *Eucalyptus globulus* at Muckross Abbey in the *Journal of Horticulture*. It is but right that some effort should be made to popularise this tree in Great Britain; and at a time when we have become possessed of the Isle of Cyprus, renowned in antiquity for its fertility, and that fertility has been seriously interfered with by the ruthless destruction of its forests, it may not be amiss to bring before your readers some information gathered specially for their benefit within the last few days, so that they may know somewhat of the plant which is being so extensively cultivated in Algeria at public and private expense. The reason that guides its cultivation here is that which will guide the English to plant it in Cyprus.

Algeria at the time of the Roman occupation abounded in forests (springs of water were not so rare then as now), but the Arab came, and with his race gradually fell the timber, never to rise again, for the Arabs thought not of the morrow, and planted nought. The French in 1830 found Algeria a wasted treeless desert country, but guided by the fact that to plant trees is to make a country healthy and fit for colonisation they planted the Mulberry, the Plane, and the Cypress. A tree of quicker growth, however, than these was needed, and was found in the *Eucalyptus*.

To the discovery of the *Eucalyptus* the French lay claim in the person of an officer of the French naval service, himself a distinguished naturalist, who was attached to an expedition which anchored off Tasmania in 1792, by name Labillardiere. The French do not seem to have in any way utilised the discovery of the tree, which has been brought to the front more by the growth of our own Australian colonies than aught else.

In 1854, through the exertions of a Mr. Ramel (a Frenchman), seed was sent over, and the tree propagated in France, and it would appear that through his constant writings respecting its hygienic and medicinal properties it began to be looked upon as likely to play an important part in creating forests in Algeria.

In 1863 Mr. André, gardener in chief to the city of Paris, wrote pointing out how, notwithstanding its rapid growth, *Eucalyptus globulus* is denser than any other wood, its specific gravity exceeding even Teak; and recently we find India, the country of the Teak, drawing immense supplies of *Eucalyptus* timber from Tasmania, principally for railway sleepers. Public attention having been thus drawn to the tree, a Mr. Trottier in 1862 first caused some plantations to be made of it on his property near Algiers, and very soon the valuable properties it possesses showed themselves.

Rapid growth in a country denuded of trees has hastened its general introduction. An *Eucalyptus* (Blue Gum) grows some 19 inches per month in its first year, provided the soil be rich and suitable. At ten years of age the trees will be 55 to 60 feet high, and at the ripe age of one hundred years may even reach 300 feet, which is the height of some actually measured in Australia, while the diameter close to the soil was found to be 30 feet. Add to this wonderful growth the persistency of its leaves, and in this country—where the hot wind of the desert blows with terrific force, often at 107°, as I have felt and tested myself—it can be readily seen how the thoughtful farmer by planting to the south and west of his crops creates a wind break of immense value, while at the same time he is growing the materials for future use in erecting his farm buildings, for sale as telegraph poles or railway sleepers, &c.

The principal planters of the *Eucalyptus* outside the govern-

ment are Mr. Trottier, Mr. Cordier, Mr. Arlés Dufour, La Société Algérienne, Mr. Playfair, and the Railway Company.

Mr. Trottier has some 93 acres of flourishing plantations, a great part of which are close to Algiers, and worthy a visit.

Mr. Cordier planted his first two trees of *E. globulus* in 1863. Since 1864 his faith in the future of this tree is so great that he has annually planted some two thousand, either in blocks or in lines, so that at the present time he is owner of some twenty-five thousand thriving trees. In April, 1876, Mr. Cordier made out a list showing that he had growing on his plantations 119 different species, and I believe he is engaged noting carefully and experimentally the different soil each requires, which are suitable for growth in the plain or on the mountain slope, which species will bear drought, and which requires humidity.

Supposing the English Government required to plant *Eucalyptus* in Cyprus, there is no man here except our indefatigable and learned Consul, Lieut.-Col. Playfair, so well fitted to advise upon the proper species to plant, &c., as Mr. Cordier.

The plantations of Mr. Arlés Dufour are situated about the centre of the plain of the Mitidja, in what was formerly a marshy district, and it was more particularly with the object of modifying the force of the south-west winds as they passed over his lands that this gentleman has bestowed such a large amount of care and attention to the culture of the *Eucalyptus*.

A few days ago I drove from the seashore across the Sahel, or low mountain range separating the plain from the Mediterranean Sea. As the summit is reached, the road making a sudden bend discloses to view the magnificent panorama of the Mitidja plain. From the vast expanse of burnt-up earth and waste land as it appears after an Algerian summer the eye instinctively sought relief by resting upon a great mass of dark green vegetation, the oasis of this apparent desert.

This mass of foliage marked the *Eucalyptus* plantations of Mr. Arlés Dufour, arranged as vast curtains formed of twenty thousand trees to form the wind breaks I have already spoken of. Away in the distance could be distinguished the site of the Arab village Benit Amoo, marked by its proximity to Orange groves and an *Eucalyptus* plantation, the property of the son of our Consul Lieut.-Col. Playfair, who is about to devote his energies and agricultural education more particularly to the farming of the *Eucalyptus*, which is expected to yield handsome returns on the investment.

Further away still is the town of Bonjurik, marked by its groves of magnificent Plane trees and the *Eucalyptus* plantations of Mr. Gros and others. La Société Algérienne have three plantations, one of ten thousand trees on the borders of a lake, two others of respectively ten thousand and twenty thousand trees. Of these a third average seven years of age, and are now being cut down, and find a ready sale as telegraph posts, supports for mines, &c.; *globulus* and *resinifera* are the two species cultivated by them. Acting for a second party the same Company have elsewhere plantations of one hundred thousand trees each. The Railway Company count on the borders of its line some four millions of trees, the majority now being *Eucalypti*. A few parts of the line remind one of the grateful shade afforded those who travel in America by the forest trees through which the iron horse ploughs his way.

Considering that it is only some fifteen years since the planting of the *Eucalyptus* tree commenced in earnest, it may be considered an evidence of successful introduction when I inform your readers that the total number of trees at present in growth is estimated at not less than 1,500,000.—**ARTHUR TODD, Algeria.**

ANNUALS AS CUT FLOWERS.

ESCHSCHOLTZIA CROCEA FLORE-PLENO.

I GROW a good quantity of the branching *Larkspur* mainly for supplying cut flowers during the autumn months, not that it is unavailable for this purpose earlier in the year, as, in fact, it comes into bloom in July; but it is at this season that a call for an increased quantity of cut flowers is made on us, and some of the varieties of this *Larkspur* are in many respects fitted for this purpose. The whole of the varieties are equally free-blooming and hardy, but the white and crimson shades of the flowers are the most useful. In a cut state they last a long time. I sow in the beginning of April and give the plants plenty of room for development.

Eschscholtzia crocea is another excellent annual for producing material for cutting from. Cut at the proper stage of development the buds have all the appearance of a deep-coloured Tea

Rose. In the bud state they last a long time cut. It is a continuous and free bloomer, and in our case sows itself. Now and again plants stand over the winter. The new variety Messrs. Carter & Co. distributed is a good companion to the

normal species. Either the seed had not been carefully selected or the "Mandarin" is not yet fixed in a variety, for in our case quite 50 per cent. of the produce of the seed packet proved the old crocea. Whether *Eschscholtzia* Mandarin



Fig. 57.—*ESCHSCHOLTZIA CROCEA FLORE-PLENO*.

will prove as useful to gardeners as its parent is somewhat problematical.—R. P. BROTHERSTON.

[For affording cut flowers especially, and for garden decoration generally, the new double *Eschscholtzia crocea flore-pleno* raised by Messrs. James Carter & Co. merits notice. It is very distinct, the flowers being of good substance and reddish orange in colour. The accompanying engraving is a truthful representation of the flowers as exhibited before the Floral

Committee of the Royal Horticultural Society, who granted a first-class certificate to this variety last year.—EDS.]

GENOTHERAS

THE Evening Primroses are a showy if not very refined class of plants, and they enjoy much popularity on account of the great size of their flowers and from these appearing in their

greatest perfection only after sunset. Why they are so constituted as to prefer blooming during the night, is a curious speculation. We have many examples of flowers which open only in sunshine, and also of others, as *Anagallis*, *Oxalis*, &c.,

which are so sensitive to barometric changes that they will close their petals hours before rain, but the *Enotheras* stand almost unique among hardy plants by their opening fully only during the night. One explanation appears to be, that from



Fig. 58.—*ENOThERA MACROCARPA*.

the construction of the pistil they do not require insect aid to fertilisation, the four arms of the cruciform stigma each touching one or more of the anthers. An exception in the case of the annual species *Æ. bistorta* seems to confirm this view. In

it the stigma is simple and not four-armed as in the most of the other species, and the style is much longer than the stamens; hence insect agency is required for fertilisation. Accordingly we find the flowers of this species remain open during the day,

the petals have more substance to enable them to withstand the sun, and bees call regularly there, while they pass unheeded the half-closed flowers of the night-blooming sorts.

(*Oenothera macrocarpa* is one of the best decumbent species. The flowers are a light yellow, very large, often 4 to 6 inches in diameter, and are produced in greater or less profusion from June to the end of September. It prefers a light rich loam, and if a little peaty so much the better. On heavy clay soils the plants are not long-lived, becoming annually weaker and often going off during the winter altogether. In such places it is best treated as an annual or biennial, sowing a pinch of seed on a slight hotbed in March and planting out in May. Many of the plants so raised will bloom moderately the same season and well the next. In light soil, where there is no need for this, we find that layering is the handiest mode of propagation. This should be done about midsummer, and the plants when rooted taken off early in autumn and wintered in a nursery bed. It is an admirable plant for rockwork, and when planted there should be allowed ample room so that it may not overgrow its less robust neighbours. It is a native of North America, and is sometimes known as *O. missouriensis*.—R. D. TAYLOR.

GROWING GRAPES IN COOL HOUSES.

WHEN I referred to this matter in your pages some weeks ago several of your correspondents, including Mr. D. Thomson, Drumlanrig, advanced some remarks on the subject mostly against what I said: yet I cannot help again saying that good Grapes may be very generally cultivated in unheated houses. I could send creditable Grapes if needed for the Editors' inspection cut from Vines that have never had the slightest fire heat applied to them since they were propagated. From my success here I should have no hesitation in planting an unheated house with Vines in the coldest district in the country, and I am anxious that any with a house of the kind will give the plan which I advocate a trial. The Black Hamburg is the best of all black Grapes for the purpose, and now is a good time for the preparation of a border and to have all in readiness for planting in spring.

Where plenty of good loam can be had add little manure; but where the soil is bad add plenty of the best manure obtainable. Start the Vines into growth from the very first in the house in which they are to grow, and as early in the season as circumstances permit. Most Vines will start naturally into growth by the end of March, and the following six months give ample time to thoroughly mature the crop, provided the Vines are treated like Vines under fire heat—that is, in closing the house with sun heat, keeping it shut altogether in dull days, and taking every advantage of sunshine and mild weather to promote development. Those who pay attention to these simple details may have Grapes as fine as if they employed fire heat, and of course with a very great difference in the cost of production.—A KITCHEN GARDENER.

ROSES AND ROSES.

To a certain extent I agree with Mr. Beachey in his pleasant and suggestive paper of October 31st that our election lists are not altogether guides for the general public, but I am hardly prepared to admit that for one exhibitor there are ten thousand who grow Roses. Our National Rose Society would be glad to be able to rely on ten hundred. I incline to think that as soon as people begin to grow Roses will these get to be like some of our great armies, spoiling for a fight. The owner begins to think he will make others own their excellence. A more general election we certainly need. As Mr. Beachey remarks, it is marvellous that Princess Mary of Cambridge is not named in the present one. I blush to find she is not in my own forty-eight, but her kinswoman Marguerite de St. Amand achieved twenty-three.

I rejoice to see what Mr. Peach says so truly of old "Glory," though I must confess I should couple with them for general excellence Cheshunt Hybrid. A really climbing red Rose still remains a desideratum. I only know of one with any substance, of course a Tea, which is Gloire de Bordeaux; next to it, perhaps, but at a long interval, comes Glory of Waltham, but you can hardly call it rampant, which Cheshunt Hybrid can easily be made. I do not understand its being left out altogether. No doubt it can hardly hope for a place in a forty-eight, but I have certainly seen it looking well in a seventy-two. And in a box of twelve Teas? Why, the help is enormous if only it can be persuaded not to develop too maternally.

What is more maidenly than its beautiful blushing bud? I heard two rosarians the other day talking of a close contest between two almost equally excellent boxes of twelve Teas. What was it decided it? Why, they said, colour. The box won, and deservedly, which possessed a Cheshunt Hybrid. It is also a good garden Rose from its fulness of bloom, in this respect an excellent contrast to some which Mr. Beachey mentions. Really some of our fat Roses seem to act as if they have done wonders in vouchsafing two or three blooms in a season. They are so slow in opening, and when at last they do it so alone in their glory, that I am always reminded of the "One, but a lion!"—the dignified reply of a lioness when a rabbit dared to chaff her on her very limited progeny. But I would plead for Mons. Boncenne in Mr. Beachey's list as a bad opener, that in my experience on a light soil it is always sure and fine. Duc de Wellington, also, though not robust, I should not speak of as a bad grower. Madame Berard I consider the best of all the seedlings of Gloire de Dijon. It is almost time the Hybrid Teas, as Mr. Peach says, had a class to themselves, and they might well do so under the patronage of that excellent patriarch old "Glory."—A. C.

CHAPTERS ON INSECTS FOR GARDENERS.

No. 23.

A REVEREND naturalist, referring to the difficulty there is in distinguishing from each other many of the species amongst the smaller moths, remarks that the practised entomologist is in the same position as is the shepherd who, running his eye over scores of individuals in his flock, notices something peculiar about each, although to a stranger the sheep may look exactly alike. That may be, and it is wonderful how the eye may be trained to notice minute differences; the cases, however, are not exactly parallel, for in the instance of the sheep they get to know their shepherd, but the moths don't recognise the entomologist! Then again, there is something "awfully" puzzling in finding that certain species (in the group of the Tortrices or "Button" moths especially) are so apt to vary that there may be as many as twenty or even thirty forms belonging to the same species, the variations being in the marking or colouring of the perfect insect. Extensive breeding of the species in question, carried on in different localities, is doing a good deal towards the clearing-up of sundry points that perplex the entomologist. Were our horticulturists as a body to take careful note of the times of appearance and the habits of the numerous species that in this and other orders are frequently brought under their observation, they would not only facilitate the adoption of measures for the checking of noxious insects, but help on the progress of natural science. The group of the Pyralidina, which in the Lepidopterous order follows the fat-bodied species known as Noctuidina that were last noticed in this series, includes species that are all of small size, yet of very different appearance. In this respect they agree, that the fore wings are longer than the hind wings and triangular; the larvæ are usually sixteen-footed, slightly hairy, slender, and very agile. Several of the species feed on plants under cultivation, but one or two only can be said to be injurious. Some species are, indeed, very common, such as the Small Magpie (*Botys urticalis*): these, however, chiefly feed on various wild plants, and the moths enter gardens either for shelter or from their partiality to sweets. The Deltoids or Smuts (*Hypenæ*) are placed first, the family not containing many species; but in some seasons the insects swarm in grassy places. Their appellations have arisen from the fact that when the moths are reposing the wings are folded into the form of the delta or triangle; the head is also furnished with remarkably long palpi. In the family of the Pyrales we find some handsome species, and some that have a remarkable history. Here are classed two species whose destructive habits are undeniable, though not affecting gardeners, at least not in their particular calling. The three species called "Meal Moths," the most abundant of which is *Pyralis farinalis*, have glossy and elegantly marked wings, but this will be admitted by few as any extenuation of the injury the larvæ cause to meal or flour. Mr. Wood asks pertinently, "What could they have fed upon before men took to grinding corn?" Then *Aglossa pinguinalis*, known also by the odd name of "Tabby" and a pretty species, is on the watch during its season to deposit its eggs on greasy clothing, having a partiality for horse rugs that renders it an object of dislike to grooms. The caterpillar is almost as wiry as the wireworm, making for itself with ease comfortable grooves, in which it revels on the material.

Few of the larvæ of the Pyrales totally hide themselves from view, though some feed in leaves slightly drawn together. Often they have a transparent or glassy appearance, as has that excessively common larva of *B. sambucalis*, which strips the Nettles in company with *B. urticae*. The moths generally sit by day on palings or trunks of trees, escaping detection by their attitude or colour; some, however, fly during the day in an undulating manner. A notable insect—referred to by sundry authors, some of whom put it in this group, while others think that it belongs to the Tortricina—is that enemy of the Vine designated the Vine Pyralis, or more correctly *Enectra pilleriana*. Fortunately for us it is a species of extreme rarity in most parts of Britain, and, according to Mr. Stainton, its sole food as yet observed is the seeds of *Iris foetidissima*; but in France it has a history attaching to that of the Vine which reaches back to the sixteenth century, when in 1562 “prayers, processions, and exorcisms” were tried to check the ravages of the creature. If we are to believe the old chroniclers it first showed itself in the vicinity of Paris; even as recently as the years 1836–38 the pest was terribly abundant in many departments; now probably for some time the Phylloxera is destined to supplant it, such revolutions amongst insects being not unusual. On the whole I suppose the Phylloxera from its sly habits might be adjudged to be the worse foe, but modern science suggests methods of dealing with these enemies concerning which our ancestors were quite in the dark. The French have, however, long been alive to the fact that the Vine Pyralis is best nipped in the bud—that is, destroyed in the egg state, the leaves laden with these being hunted up and burned or buried deeply. According to Figuier the loss through this insect (mainly) in the two departments of the Saône-et-Loire and the Rhone during 1837 alone amounted to three millions and a half of francs.

The habits of this foe of the Vine are somewhat peculiar. Some time in July the moths—the wings of which expand about three-quarters of an inch, and which have palpi thrice the length of the head—are noticed flying over the Vines, laying eggs in little clusters that are fortunately rather conspicuous. Hatching in August the young caterpillars are little inclined to revel in the foliage that is then abundant, but in the course of a few weeks they hibernate in cracks and crannies in or near the Vines; re-appearing in spring they attack the young leaves and the just-expanding flowers at a most critical time, binding these in masses, within which they are themselves concealed. “Desperate diseases require desperate remedies” says the proverb, and very probably the comparative immunity that the vineyards now enjoy is due to a proceeding advised by M. Andorim about thirty years ago. On his recommendation the proprietors carried out an extensive destruction of the Vine props and the shoots in which the caterpillars had harboured.

The “China-Marks” are a singular family amongst the Pyrales, taking their name from a fanciful resemblance between the markings upon their wings and those upon choice porcelain. Each of the caterpillars of the four British species leads an aquatic or semi-aquatic life; the typical species, *Hydrocampa stagnalis*, subsists upon the common Duckweed, constructing therefrom a kind of case, or from the leaves of a *Potamogeton*. These caterpillars can live entirely under water, or partly within it, when plunging beneath its surface they carry down with them a bubble of air. Most of the *Hydrocampa* have gills like filaments by which they breathe. One species actually passes its chrysalis stage amongst submerged leaves, and how the delicately winged moth in coming out escapes drowning remains somewhat a mystery. Passing by the group of the Pearls—to one example of which allusion has been made, the moths of which have lustrous wings, in some instances dark, in others pale—we arrive at the large family of the Veneers (*Crambina*). Stray specimens belonging to the *Crambina* enter gardens, but the majority are to be found in fields, on grassy banks, and amongst Reeds or Sedges. Individuals of the Gigantic Veneer (*Schoenobius gigantellus*) are occasionally taken measuring 2 inches across the wings; ordinarily they would be half an inch less, but most of the Veneers do not exceed the inch. From the manner in which the wings fold over the thorax the pinning-out of specimens gives the collector some trouble, as well as the subsequent naming. Some species, indeed, are easily recognised, like the Wainscot Veneer (*Chilo pragmatellus*), after which the enthusiast has often rushed deep into the mire of sedgy islets, but the majority are puzzling to make out, nor are they, from the habits of the larvæ, frequently detected in their earlier stages.

The Honeycomb Moth (*Galleria cerella*) is a *Crambus* with

propensities that make it much disliked by bee-keepers. It appears to attack both bee hives and the nests of wild bees, and in hives the larvæ not only damage the comb, but by pressure they cause the death of a number of young bees. The food sought by this insect is the wax, not the honey, and in order to protect themselves from the possible attacks of the bees, the larvæ form long silken galleries within which they reside, only thrusting out the horny head and the front segments when they feed. In some cases it is evident the moth cannot escape but must die in the hive, and this probably assists in keeping down their numbers. The less common moths (*Melia sociella* and *Achroia grisella*) are also wax-eaters with similar habits.—J. R. S. C.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Laying Down Broccoli.—Spring Broccoli in some soils is apt to become very luxuriant, and from the succulent character of the growth to be more susceptible of injury by frost than that grown thinly in comparatively poor soil. It is a capital practice, when the growths are luxuriant and the plants long in the stem, to lay them with the heads towards the north. The soil is taken out with a spade on the north side of the plant, deepest near the stem and shallowing outward, so as to admit the stem of the plant being covered-up to the head. The spade is then inserted to the south of the plant and 9 inches or so from it, and the plant is laid in the trench and covered with soil obtained by making the opening for the next plant. In covering the stems the soil should be trodden rather firmly. The operation of laying the plants checks their growth, and the stems being buried the plants are in a condition to withstand the rigour of a severe winter; indeed we have often known those so treated escape injury, whilst those having the stems exposed have been seriously damaged. That very desirable autumn Broccoli, Veitch's Self-protecting, is now turning-in, and though it is harder than Snow's and any of the Cauliflowers, it yet is desirable to break a few leaves over the heads so as to make all safe. When the heads are about the size of a breakfast cup the plants may be lifted and placed in frames or pits in moist soil, where the heads will keep in good condition for a long time.

Autumn-sown Onions, Lettuces, &c., and that valuable crop Winter Spinach, are often allowed to stand so thick upon the ground, and also to be encumbered with weeds, as by depriving the plants of light and air to induce a tender weakened growth succumbing to frosts, which plants properly thinned and kept free of weeds withstand with comparatively little or no injury. When the plants are kept thin their growth is solidified and in the best condition for resisting wet and cold. See that the plants are not too thick and their growth not retarded by weeds and fallen leaves, but keep them clean, and healthy crops will follow.

FLOWER GARDEN.

Falling leaves will keep the broom in constant use for some time yet; although it is hardly to be expected that grounds in the immediate vicinity of deciduous trees can be kept in good order, yet those in charge will need to be ever on the alert to detect anything that detracts in any way from the neatness that should prevail in all gardens. Lawns can scarcely have the roller passed over them too often, which, besides improving the texture of the grass, is a quicker and better way of removing wormcasts than sweeping. Some lawns may yet require to have the machine passed over them, as the grass by growing irregularly presents an untidy appearance. Weeds, such as Plantains, Daisies, &c., should be removed, detracting as they do from the rich velvety appearance of the lawn, the pride of English pleasure grounds. Walks, too, must be well swept and rolled, as by such means only can they be made comfortable; those having the surface loose admitting wet are more readily acted upon by frost, rendering them unsightly and disagreeable.

Where it is intended to make new beds or borders of Roses those about to plant should, with a view to securing good plants, give their orders at once, as the earliest planters generally have the pick. Nurserymen, like other traders, wishful to supply a good article, do so upon the principle of supplying the best first, best last, and consequently best always. The soil should be trenched, a liberal dressing of manure being given and mixed with the soil beneath with a fork, and another good dressing given at the surface, which should be forked-in. This is [all that good] loams require. Soils naturally stiff suit Roses on the Briar, light soils inducing suckers, which enfeeble the plants; on such soils the Manetti stock should be employed, and if the cuttings have been properly made there will be no growth from the stocks. Manetti roots do not produce true suckers, but if eyes are left in the stocks these will grow much too freely. If small lumps of clay can be mixed with light soil the application will be highly beneficial. Soils not only light but shallow will be improved by being liberally mulched with manure. Some Roses do well on their own roots, especially in light soil, but they are best worked. In planting those on the Manetti they should be planted so that the jun-

tion of stock and scion is buried beneath the soil about 3 inches. After planting mulch with litter, but defer pruning until spring.

FRUIT HOUSES.

Figs.—The trees in pots for affording fruit at the close of April or early in May will now need to have the wood dressed over with a brush, using soft soap (1 lb. to a gallon of water, brought to the consistency of cream by adding flowers of sulphur), being careful when using the mixture not to rub off the young fruit, the shoots of the current year requiring to be carefully handled. Very little pruning will be required, the trees having been regularly pinched or stopped during the growing season, but if the growths are too crowded or irregular they may be thinned or cut-in so as to render the trees symmetrical in shape. The woodwork and the walls of the house should be washed with scalding water and then done over with quicklime and sulphur. As a mild bottom heat is essential to a successful swelling and perfecting of the earliest crop, the pots should be raised upon loose bricks in the position they are to occupy, and the pits be filled with Oak or Beech leaves and pressed firmly. If the pit be no more than about 2 feet to 2½ feet in depth a third of stable litter may be added. Care must be taken in that case to avoid overheating, not allowing the heat about the pots to exceed 65° until growth takes place. The house may be kept close and moist by sprinkling twice or thrice a day in bright weather, employing fire heat to maintain a temperature of 50° at night, 55° by day, and with sun heat 60° to 65°. If the soil in the pots be at all dry a thorough soaking of water must be given.

Trees permanently planted out in borders intended for early forcing should now be untied from the trellis and pruned. Those with the roots restricted to small borders will require little more than thinning out the shoots where too crowded, but those not having the roots restricted will require a hard pruning at the upper part of the trellis, cutting back those shoots that have attained to the limit of the trellis to where the succeeding shoots start, in order that they may occupy their place in the ensuing season. Thin-out, removing entirely any elongated spurs, reserving such as are short-jointed and fruitful. The house should then be thoroughly cleaned as before advised, and the trees also dressed. The trees should then be secured to the trellis, allowing room for the growth of the branches, forking over the surface of the border slightly, removing the loose material, and apply a top-dressing of short partially decayed manure about 3 inches thick, giving a good watering. Ventilate fully at all times, except when frost prevails, which it is well to exclude. Succession houses should be pruned and cleaned without delay, especially where insects have obtained a footing. Complete any root-pruning, lifting, &c., remembering that Figs with the roots restricted or confined to limited space are more manageable and fruitful than those with an unlimited root area. Any unfruitful trees should be severely root-pruned, and the roots restricted to moderate-sized borders, depending more upon active feeders near the surface encouraged by mulching than a large extension of roots.

Peaches and Nectarines.—If ripe fruit is required in late April or early in May forcing may now be commenced. If the crop is taken from trees in pots they should be placed in a light airy house, and a good watering should be given unless the soil is in a thoroughly moist condition. If the earliest crop is taken from trees planted out a thorough watering should be given the inside borders, and if the trees are weakly a soaking of liquid manure not too strong will tend to a more vigorous break. The house may be kept close and the trees sprinkled overhead in the morning and afternoon of bright days, admitting air abundantly whenever the weather is bright, and employing no fire heat only to exclude frost, for the slower the trees are excited the stronger will be the blossom. The outside border must be well protected with litter, and if tarpauling is put on the top it will be useful in preventing the soil from becoming chilled by snow and excessive rains.

All the trees in the succession houses will now be bare of leaves except in the case of a few late varieties, which should not be removed until they part readily from the shoots; but when they are all off, or brush off easily with the hand or a broom, undo the trees from the trellis, prune them, thoroughly clean the house, and if need be paint the woodwork and trellis, dressing the trees, and tie them to the trellis, leaving room for the branches to swell, tight tying being prolific of gum. Remove the surface soil and replace with fresh, and give a good watering to the inside borders, thereby having all in readiness for a start when required. Any lifting, root-pruning, or the introducing of fresh trees should be performed forthwith, the planting of houses now proceeded with or so soon as the leaves are nearly off the trees to be removed. Trees for planting in houses are best three to five years trained and prepared for lifting by digging round them a year previously. Such trees lift with an abundance of fibres; and being carefully planted they force very well indeed the first season, not being brought on too rapidly, and a moderate crop taken. It is always best to select such trees in preference to planting young ones, which do not fruit much the first three or four years; hence the advantage of planting trees in an already bearing state.

Orchard House.—Complete the top-dressing of all fruit trees in pots. A good watering should be given where the soil has be-

come at all dry, after which the pots should be well covered up with litter in a dry state. It is a mistake not to dress the trees so soon as the leaves have fallen; at least give them a good syringing with quassia water, 4 ozs. to a gallon of water, boiled for fifteen minutes, then straining and adding 4 ozs. of soft soap; but it is preferable to dress the branches with 1 lb. of soft soap dissolved in a gallon of water, adding tobacco powder to bring it to the consistency of thin paint, or tobacco juice may be added in the proportion of half the soapy solution, applying it to the trees with a brush, taking care not to dislocate the buds. The soil of borders in which trees are growing must not be allowed to become too dry. The top-dressing or root-pruning being completed a good watering should be given and the surface mulched with partially decayed manure. Unless the weather be frosty the ventilators may yet remain open day and night, closing, however, in severe weather. Fig trees in pots placed in some other structure to finish ripening the second crop of fruit should, so soon as that is completed, be surface-dressed and returned to this structure.

PLANT HOUSES.

Orchids.—With the gradual lowering of the temperature such plants as *Aërides*, *Vandas*, *Phalænopsis*, *Saccolabiums*, and similar kinds, will have been brought into a partial state of rest, consequently only sufficient water should be given at the roots to keep the moss damp, for if allowed to become too dry the bottom leaves will suffer and fall off. Premature growth should be prevented by keeping the house comparatively dry and cool. A little water should be poured over the paths on fine mornings to create a moist atmosphere. Very little air will be required, except to keep down the temperature. Dendrobiums for the most part will now be at rest, and must be kept cool and dry. Cattleyas require to be kept rather dry, but the growths must not be allowed to shrivel. Very little water will be necessary to keep them plump. *Lælia purpurata* not having completed its growth should be placed at the warmest end of the house in plenty of light. *Cypripediums* require liberal supplies of water at all seasons, requiring no rest. *Lycaste Skinneri*, though a water-loving plant, requires less at this season, but the roots must not be allowed to become too dry, or the pseudo-bulbs will shrivel. The plants should be well elevated in the pots so as to allow the water to pass away freely, or the flower buds decay when only an inch or so long. *Calanthe vestita* will not require much water after the plants commence flowering. They should have plenty of light and a dry atmosphere, too much atmospheric moisture and insufficient light causing the buds to drop and the flowers to spot. Many *Odontoglossums* and *Masdevallias* will be growing freely, and must be kept moist at the roots. Care must be taken at this season not to produce a very moist atmosphere. *Odontoglossums Alexandræ* and *Pescatorei*, with others of the same type, are growing vigorously, and require a good supply of water, damping overhead on fine mornings with a syringe or fine-rose watering pot, using tepid water for the purpose. Plants in flower may be removed to a drier atmosphere. *Anæctochilus* will now require great care. A little air must be left on the frames or bell-glasses, and the glasses be cleared every morning. Very little water will be required for two or three months, only sufficient to keep the sphagnum moist. A strict look-out must be kept for slugs at night.

TRADE CATALOGUES RECEIVED.

E. G. Henderson & Son, Pine Apple Nursery, Maida Vale, London.—*Catalogue of Fruit Trees, Roses, &c.*

H. Lane & Sons, Great Berkhamstead.—*Catalogue of Roses, Fruit Trees, Conifers, &c.*

J. Cheal & Sons, Crawley, Sussex.—*Catalogue of Trees, Shrubs, Roses, &c.*

Elwanger & Barry, Rochester, New York.—*Descriptive Catalogue of Fruits.*

Souper et Notting, Luxembourg.—*General Catalogue of Roses.*

Louis Van Houtte, Ghent, Belgium.—*Catalogue of Trees, Shrubs, Roses, Alpine Plants, &c.*

H. Merryweather, Southwell, Notts.—*Catalogue of Roses.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

PLAN OF ROSE GARDEN (Subscriber).—We do not furnish plans, but are always ready to advise on those submitted to us and also on the planting of the beds. We shall, however, shortly publish a plan of a Rose garden that may be of use to you in common with other readers.

BIRDS PECKING FRUIT (M. A.).—Various birds are addicted to this practice, and the common tom tit is a frequent offender, pecking, as if for mischief rather than food, many fruits near the stalk. You can only determine what particular bird is the delinquent in your garden by close observation. Possibly we have named the culprit—watch him.

FRUIT TREES FOR WALLS (Smetheick).—The selection of varieties to which you refer is a good one for your district. You will find reliable in-

formation on selections of fruit for various aspects on page 283 of the Journal of October 10th, which also contains a more complete selection than the one you have named. The same number gives information on the right distances for planting various wall trees.

GATHERING MEDLARS (*An Old Subscriber*).—They ought to be gathered in November when the leaves commence falling from the trees. They should then be spread singly in a dry room, stalk side upwards, until incipient decay commences, or until they are what is termed "blotted," when they are ready for use.

GROWING ANEMONES AND RANUNCULUSES IN POTS (*F. G. O.*).—They do not succeed well in pots, but are sometimes so grown, using rich loam, inserting the tubers 2 inches deep, five of Ranunculuses in a 6-inch pot and three or four of Anemones in the same size of pot. They should then be plunged in ashes in a cold frame, not watering them until growth takes place, then give supplies proportionate to the growth of the plants. They will require air freely in mild weather, removing them to a greenhouse or sunny window when showing for bloom, then watering them copiously.

GREENHOUSE (*Idem*).—Nothing whatever will thrive in a house as high at times as 100° to 120° by fire heat. The furnace must be altered—that is, made larger, so as to admit of a larger fire and to secure a more moderate heat, regulated by a damper. With a temperature of 45° to 50° by artificial means you may hope to succeed with all the plants you name, the Carnations being of the tree kinds. The Roses would have been better had they been established in pots a year before forcing, though they will succeed if carefully lifted and not brought forward too rapidly.

CLIMBERS IN COLD GREENHOUSE (*A Young Beginner*).—The Clematis and Passion-flower will not suffer from frost, but it is possible, if the winter be severe, that the Plumbago would be more or less injured, though it is probable it might not if kept dry at the roots. You may cut them all down to near the base of the plants in spring, but not to the ground, as it is likely they are old and have no dormant eyes at or beneath the surface of the soil. There is no need to cut them down on account of mealy bug, as it is destroyed by syringing—a wineglass of paraffin to four gallons of water, thoroughly mixed by filling the syringe and squirting a few times sharply into the vessel and then upon the plants, every second squirt being into the vessel, which is necessary to keep the paraffin well mixed with the water, without which the syringing loses its efficacy. A thorough cleaning and painting of the house would be a means of subduing the bug. Keep the Rose cuttings in the pot in the cold frame through the winter plunged in ashes to the rim of the pots, which will be a better place than a room window. They will root provided the wood was ripe.

DISTANCE OF SHELVES IN FRUIT ROOM (*F. J.*).—They may be so close as to admit of the fruit being readily examined, which to some extent is determined by the width. Twelve inches will answer for shelves not more than 3 feet wide, adding 6 inches for every increased foot of width. Pears which succeed against an east wall:—Jargonelle, Beurré d'Amanlis, Beurré Superfin, Durondeau, Conseiller de Cour, Doyenne du Comice, Marie Louise, Beurré Diel, Beurré Bachelier, Glou Morceau, Joséphine de Malines, and Bergamotte Esperen. Most Apples succeed well as espaliers. *Dessert*: King of the Pippins, Cox's Orange Pippin, Dutch Mignonne, and Reinette de Canada. *Kitchen*: Worcester Pearmain, Cox's Pomona, Cellini, and Dumelow's Seedling. It is preferable to purchase trees at three years old, two years trained, than maiden trees at a third of the price, as the former sooner come into bearing; but where ground is not begrudged, remaining unprofitable, the maidens suggest themselves as most economical.

TEBBS'S UNIVERSAL STOVE (*Bingley*).—The address is 98, Chapside, E.C.

GARDEN DIARY (*W. S.*).—Write to Mr. Richard Nisbet, Aswarby Hall, Fellingham.

EUCALYPTUS GLOBULUS (*E. T.*).—The Eucalyptus will do perfectly well in any good garden soil, and is only hardly in extremely favourable situations. It will also do very well in a well-lighted hall where there is a coke stove, provided the fumes of the coke do not escape into the apartment.

NAME OF TREE (*E. M.*).—Taxodium sempervirens.

NAME OF SEED (*E. B., Normanton*).—The seed appears to be of a variety of Lupin, but which variety it is impossible to determine.

NAMES OF FRUITS (*F. McLennan*).—1, Gansel's Bergamot; 2, probably Crassane, but a very indifferent specimen; 3, Zephirin Grégoire; 4, not known. Apple, Golden Pippin. (*C. H.*).—Apples: 1, Norfolk Beefing; 2, Flanders Pippin; 3, Winter Greening; 4, Reinette de Canada. Pears: 1, Beurré d'Arenberg; 2, probably Beurré Rance. The specimens of Hawthorn are by far the finest we have ever seen. (*John M. Miller*).—It is Cornish Gilliflower certainly. (*L. W.*).—They are poor specimens, but sufficient to enable us to say that both are Black Hamburg. (*F. Wood*).—1, Northern Greening; 2, Not certain; 3, London Pippin; 4, No doubt Minshall Crab. The Pear is certainly not Doyenne du Comice, but one of those valueless autumn Pears of which there are so many. You had better graft it. (*N. S. R.*).—1, Beauty of Kent; 2, Alfriston. (*R. R. Woolton*).—1, Gloria Mundi; 2, Beauty of Kent; 3, Alfriston; 4, Federal Pearmain; 5, Soldat Esperen; 6, Beurré d'Arenberg. (*H. H.*).—1, Hunthouse; 2, Wyken Pippin; 3, Winter Greening. (*P. M.*).—Not known.

NAMES OF PLANTS (*Cheshire Reader*).—1, Cytisium falcatum; 2, Asplenium, species not determinable; 3, Eonymus japonicus aureo-variegatus; 4, Sedum aizoidium variegatum; 5, Sedum aizoidium. (*E. S. W.*).—The Orchid is without doubt Maxillaria picta.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

THE MANAGEMENT OF YOUNG CATTLE.

(Continued from page 355.)

HAVING followed up the question of feeding young cattle for early maturity as beef, whether fed on pasture land in part or entirely under cover upon the produce of the arable land combined with artificial food, we must look to the requirements of the home farm and its proprietor. In very many instances a considerable

portion of the cattle as well as dairy produce is required at the establishment or mansion in connection with it, and the articles of consumption, whether of beef, mutton, pork, or dairy produce, must be of the best, and of course small joints of the highest quality of meat are indispensable. Let us first consider the beef furnished by young cattle, and take the Shorthorned breed, which at full age is one of our largest and heaviest varieties of cattle. When young steers and heifers can be fed up to full condition for slaughter at from twenty to twenty-four months old they furnish meat in moderate-sized joints of admirable quality. Whether, however, the animals are Devons, Herefords, Sussex, or Shorthorns, when properly fed upon the method advised in the former part of this paper they are each adapted for the purpose; but in case older meat of the fuller flavour is required, instead of breeding the animals we should prefer to buy cattle of four years old, either of the Galloway, Scot, Aberdeen, or North Devon breeds. Either of these will furnish the nobleman's table or that of the greatest epicure with meat of the finest quality and highest flavour, but they will be purchased from districts differently managed and stocked compared with the home farm under profitable management.

The rearing and feeding, together with the general management of young cattle intended for the dairy, up to the time of producing their first calf upon the home farm, must now engage our attention. In our paper written for this Journal on the 23rd of May last we stated the method of management up to the time when they reached the age of one year. Our object is now to continue the subject of management as heifers intended for the dairy, whether of the Shorthorned, Ayrshire, Alderney, or Kerry breed, because correct management for the one must be also good for the other if we only consider all the points connected with their general health and condition and the period of the yearning their first calf. Each of these subjects is of the utmost consequence and importance connected with home-farm management. We do not on this occasion propose to refer to the relative merits of the different breeds of cattle as before named, for we hope to find an opportunity at a future time to compare the merits of them as dairy cattle. We therefore proceed to state for our purpose that the heifers should come one year old in the month of February, and we will suppose that they will be required to be accommodated in sheds and yards as they have been from the month of October previous until the first week in May, when they will be required to go into the park or pasture for grass feeding. Between the period of February and May they may be accommodated with a shed and yard in divisions upon the same plan as before stated for the young steers, and more particularly will it be requisite in the case of the animals being of different breeds. In promiscuous mixture of Shorthorns, Alderneys, Kerrys, &c., the large animals are sure to tyrannise over the smaller weaker stock and monopolise the food, obtaining the lion's share. It is therefore desirable that the heifers should be kept in twos or threes in separate divisions of the yard and shed, not only that they may feed more comfortably and with more regularity, so essential to their health, but to prevent accidents by the stronger injuring in various ways the weaker animals. We do not propose that the heifers should be confined entirely to the sheds and yards during the spring, but we think it best that they should have air and exercise and access to water in a paddock near the home farm premises for two or three hours during the day. Grass feeding we always like to hold in reserve until it furnishes a good bite, as it usually does the first week in May. This appears the most natural mode of rearing heifers; but we recollect for some years, where we were peculiarly situated as to pasture upon a home farm under our care and management, that we kept our heifers entirely in yards and sheds as described both in winter and summer, and until after they had yeanned their first calf, although when turned out to graze it was days sometimes before they attempted it, desiring only to return to their previous quarters and mode of life; and although we cannot recommend it as a plan for general adoption, yet we are compelled to say that we had as fine dairy cows as we have ever seen reared in this

way. We never recollect having ill health or accident overtake them whilst confined to the yard and shed; the principal objects in view were the feeding the animals entirely upon the produce of arable land, and the treading a large quantity of straw into manure, which was allowed to accumulate under the animals.

The mode of feeding in the yards, &c., should be a moderate allowance of decorticated cotton cake, say 2 lbs. per day each, with not exceeding 30 lbs. of mangold or Swedes per day, the cake being given in a fine or meal state mixed with the roots. Sweet straw or inferior hay *ad libitum*. The hay should not be mouldy, but may be the produce of inferior pastures. It is therefore a question of convenience which fodder should be used, seeing that straw and such hay are about the same in money and feeding value. Upon this combination of food the heifers ought to be, in the absence of disease, in blooming condition when they leave the yards and enter upon grass feeding. It will depend upon the quality of the herbage in the pastures whether they should continue to receive the 2 lbs. per day of cotton cake, for unless the grass land should be very poor the cake may be dispensed with until they leave the pastures and enter upon yard and shed feeding in the succeeding winter.

The next point to be considered is the lying of the pastures, because if it is low moist meadow land, and below the fog level, the animals should be removed to higher ground, either pasture or old lea, upon the arable land at night time. This matter is of especial importance in securing the health of the animals and freedom from blackleg or quarter-ill; other ailments are soon discovered and easily treated. The best and highest conditioned animals of any breed being most disposed to quarter-ill, it is advisable to bleed them from the neck vein, and take about a quart of blood from them about midsummer, so as to ascertain whether the blood is unusually defibrinated, if the animals have not previously been setoned in the brisket or dewlap. [See the article upon the quarter-ill in this Journal, new series, vol. xxxiv., page 418.]

The next question is as to the best time of the year for the heifers to bring their first calf. We recommend the month of May for that purpose; therefore, a well-bred yearling bull should be allowed to run with them from the 1st of August until they have all been served. The bull should then be removed, and they will then drop their calves at about twenty-seven months old. We recommend this age as being the best period for bringing out dairy stock, and as being the best calculated to insure their milking capacity. Sometimes heifers are allowed to go on to three years of age before yearning their first calf. This is advisable only in the case of stock intended for exhibition, so that the stock may arrive at greater size and perfection as show animals. We have no doubt from our own experience that heifers which drop their first calf at from twenty-four to twenty-seven months old will not only make the best dairy cows but the most regular breeders and less subject to barrenness. It is further advisable that heifers should suckle their calves up to a good age, say ten or more weeks, and then have other calves in succession put to them for the whole milking period, which it is calculated to extend and prolong. This will be most beneficial to them as milch cows ever after, seeing that the calves are better milkers than the milker or dairyman. It is also extremely desirable that the pastures whereon the heifers are grazed should be well fenced, otherwise when young stock are allowed to break their bounds they may become riggers in the future, which scarcely any fence will stop. It being also likely to cause abortion and other serious damage to them, it is recommended that they should have only pure water for drinking, either from a running stream or a well-supplied pond of pure water. Such as we often see on farms—ponds highly coloured with the drainage from the farm yard—is a fruitful source of blood-poisoning. It is, however, sometimes argued by farmers that the cattle like it best, but this can only be an acquired taste, for it is impossible to admit that it is best for them that their drink should be composed of diluted urine and other fæcal matters.

The pastures being always fed close care should be taken that the bunches of grass be cut before seeding, in order to prevent the formation of ergot in the seed heads, which is baneful to the breeding stock and likely to produce abortion. It is also requisite that particular attention should be paid to their removal to and from the pastures, yards, and sheds, so that no injury may occur to the animals in passing through gateways, &c., by hurried driving. If possible each kind of stock should be kept in separate herds, otherwise the stronger breeds, such as Shorthorns, will often seriously injure smaller stock like Alderneys, and when the stronger ill-use the weaker it often leads to abortion. Whatever may be the cause of abortion the stock should be watched with a vigilant eye, for when one case occurs it is sure to spread to other animals if the affected one is not instantly removed on the symptoms peculiar to abortion being first discovered.

When the period of summer grazing is well advanced, and the grass begins to become stale on the pastures, the heifers should have cabbages on the pastures. These, when large heads, have very strong and hard stumps, and sometimes these stumps when not split with a hook are apt to choke the young animals whilst endeavouring to masticate them. When the animals are removed

from the pastures to winter quarters they should be treated in the yards and sheds as in the previous winter, but no more than two should be allowed to feed in the same apartment. As the time of calving approaches they should be alone in a box or pen, and receive the attention required from the dairyman.

WORK ON THE HOME FARM.

Horse Labour must still be applied to the preparation of land for wheat, and seeding the same if not already completed; for although we recommended only a short time ago that it would be well to defer the seed time until the end of November or first week of December on account of the slugs being so very numerous upon the clover leas, we have, however, now a decided change of weather, and instead of genial south-west winds and growing atmosphere we have north winds, night frosts, and an atmosphere the reverse of growing, for the vegetating of plants, grass, or seed corn respectively. The sooner the wheat is all sown the better, for should the like weather prevail for some little time the wheat plant will be quite safe from the depredation of slugs. In those cases where the wheat land is all seeded, the work will now be finishing the autumn cultivation of land which was partially done before the wheat season. In those instances where the land might have been worked down, and the grass and weeds cleared away; yet since that has been done where there is couch left in the land, any small bunches will by this time have vegetated sufficiently to show their position, and may be easily forked out and carted away before the final or fallow ploughing. It is through the disregard of the little lumps of couch that the succession is kept up, causing immense and costly horse labour in the future, and which might have been prevented at small cost by judicious hand labour.

The feeding of horses at this time, now that green fodder is not available, should be regarded as important, for we certainly have no right to expect that the animals can be as healthy and as capable of severe labour when placed suddenly upon corn and dry fodder diet only. We again advise that some roots either of carrots or Swedes should be given in addition with corn and hay. Wheat is so low in price that it is now a valuable auxiliary in horse-feeding, one-third of wheat to two-thirds of oats, both being cracked or crushed before feeding—those cold samples which are disregarded by the miller, and if sold at all must be sold at a lower rate than any feeding stuff in the market, except, perhaps, maize, will be very useful.

Hand Labour is now required in completing the storage of root crops, both of mangold, carrots and Swedes, and where it can be obtained seaweed is the best of all coverings for roots in heap, requiring but little else either of straw, or earth. Upon the heavy-land farms the wheat land as well as all the fallows will require to be carefully water-furrowed. Some men will also be required to cut and make hedges and clear out ditches upon those farms where it is not customary to keep them closely trimmed in the summer months. All the horned cattle on the farm will now require dry fodder either of hay or sweet straw, as well as a moderate allowance of roots, except the fatting cattle. These will require straw only when fed with the usual quantities of cake, meal, and roots, which should be given without being cut into chaff, as ruminating animals require the long fodder to distend the stomach and enable them to digest the other kinds of food. Sheep, both store and breeding flocks, as well as those feeding for the butcher, will now require minute attention by the shepherd. The breeding ewes ought especially, to be kept as long as possible without eating roots. They should however, have a run upon the pastures where the grass is old, and some of this should always be reserved for them. When the grass becomes short, cabbages, either White-hearts or the Thousand-headed, are capital food for in-lamb ewes, but they should have them strewed over the pastures, or upon old lea grass in a very moderate quantity at a time, certainly not as much as they can eat. We object also to their having hay before lambing, as being injurious and likely to produce abortion. We prefer straw cut into chaff, and made damp to receive cotton cake in meal in admixture or otherwise; we have known molasses mixed with straw chaff do as well as any mixture to induce them to eat straw. The early lambing horned Dorset and Somerset ewes have now dropped two-thirds of their lambs, and will therefore require great care in their management, for the lambs never entirely recover a serious check, whether it arises from want of proper care in feeding or mismanagement of the ewes, as short supplies of milk lead to a check in the condition of the lambs. Foot rot, too, is often the cause of a serious check to both ewes and lambs unless properly treated.

THE CRYSTAL PALACE POULTRY SHOW.

THE great poultry "Derby" has once more come round like, and yet unlike, all its predecessors. We see the same faces year after year, the same pens—in fact, the same arrangement of classes, and yet there are every year special features which prevent any real sameness in the shows. Some particular class contains some special wonder, the year has been exceptionally good for one breed,

or some one exhibitor shines above others. Then there is new interest in every meeting. The general arrangement has been much upset this year by the great American Circus, which occupies the central transept, and practically through all the afternoon cuts the Palace into two parts. We were much vexed at the prospect of this, but must confess that the anticipation was worse than the reality. Of course the effect as a whole is not so good, still everything has been done to make the best of the circumstances. The poultry are in the western half of the building and stretch right to the end among the ferns and water, the Pigeons in the east extend into the tropical department.

Dorkings, of course, hold their old position. The Dark variety number ninety-five in four classes. The old cocks do not please us; long stilty legs seem in favour—a great change from the traditional Dorking type. First certainly is an immense bird, but he has these prevailing faults; second would be a good bird if 3 inches could be cut out of his legs; third seemed unaccountable; the bird has a comb entirely lopping over and very crooked toes. Very highly commended is a stout, short-legged, old-fashioned Dorking. The hen class is far better than that for cocks. First Mr. Parlett's beautiful old hen, which won the cup two years ago; we know no hen like her, and her comb looks as fresh as that of a pullet. Second short-legged; a large and true Dorking, moderately dark in colour. Third very fine too, lighter in colour. Fourth white in feet with crooked toes. Ireland produces the three first cockerels. The Messrs. Smyth show some fresh wonders. First is an enormous bird not over-good in comb. Second belongs to the same exhibitor; he is good in colour, comb, and form, but his feet are too dark. Third is leggy with a very bad comb, fourth stilty with swollen toes, fifth a young and very good bird. Among the rest we specially liked Mr. Taylor's very highly commended bird and Mr. Lingwood's unnoticed one; 39 (Caws), 41 (Lingwood), 49 (Peel), and 51 (Barker) are all good. Pullets are a nice class, in most respects better than the cockerels—but, oh! the first award! the most antique-looking pullet we ever saw; large indeed, but in the opinion of every Dorking judge we could find not a bird of 1878. When will judges cease to encourage the exhibition of such birds, which for their utter want of condition ought to be passed over? While we write it is still *sub judice* whether a protest shall be made or not. Second a good all-round bird. Third in nice condition, white in feet; we think we saw her at the Dairy Show. Fourth large, but a little rusty in colour, very white in feet. Fifth a bird rich in colour and bright in head, but with a sixth toe on one foot. Mr. Taylor's and Mr. Burnell's very highly commended both good. Silver-Greys.—First-and-cup in cocks is a noble short-legged Dorking. His neck hackle is hardly quite grown, when it is full he will be a very perfect bird. Second a fresh-looking cock; third very fair, white in lobes. In hens Mr. Burnell is again first with his splendid square hen; second also very large, not quite so good in feet; third small, but nice all round. In cockerels an upstanding round-breasted bird is first-and-cup, the son, we believe, of the cup cock; he, too, will look better in a fortnight with a fuller hackle. Second a good cockerel, wanting the breast of the cup bird; third fair, but weedy. The first pullet is not remarkable save for colour; second an old-fashioned bird very short on leg. We liked 139 (Burnell), highly commended. Cuckoos are stationary. First a well-shaped and dark pair, the cock, perhaps, a little rusty in colour; second dark again, the cock too dark in feet and bad in toes; third very pretty in comb and in good condition, the cock rather light in colour. White.—The cup for Cuckoos or White goes to the first White cock, we fancy the largest bird of the breed we have ever seen; he might be shorter on the leg. Second a very pretty very white cock; third well shaped and not very large. First in hens the fine old cup-winner of many past years, second a good square hen, third nearly as good. The rest of the class are not up to the winners. The five-guinea Selling class brings out but a moderate lot as usual.

Since we put down the above notes a formal protest has been lodged against Mr. J. Walker's cup Dark Dorking pullet to which we alluded, and has been sustained on the ground that she is an old hen; the pen is therefore disqualified.

Cochins.—The first Buff cock is a well shaped bird even in colour, with wonderful foot-feathering, not quite through the moult; second a fresh bird in good condition, with rather more black in tail than we like; third of a really buff hue, smaller in comb than we admire. Among the rest of the class we saw little that took our fancy. Hens are a magnificent class. The two first are about the finest pair we ever saw, with little to choose between them. Third good, but not up to the feathering of the others. No less than seven pens were very highly commended. We greatly admired the form of Mr. Darby's, though she is a little too pale. The first cockerel is a square bird of the old-fashioned type of Cochins, which we much like; his tail is dark. Second is also capital in shape, heavily feathered, and of a rich yellow. Third a very pale bird; we thought his wing a little loose, but we may have been mistaken. Fourth very large, with wondrous feathering. We have scarcely if ever seen such a splendidly feathered collection of Cochins as Mr. Procter's; this bird is, perhaps, a little ungainly, or he must have been placed high. We liked 233,

highly commended (Darby), a large dark bird, and 235 (Lingwood). The cup pullet is a canary Buff, of pretty shape, but not very large; second much hocked, short-backed, and like all her owner's birds in foot-feathering; third a good bird rich in colour; fourth very large, failing a little in colour or she must have been higher. 278 (Mrs. Steven) would be a valuable bird but for some ticking in neck hackle. Taken all round the Buff classes were very remarkable and well filled. Partridge were not quite so numerous. The first cock is not quite through the moult, but a capital bird, specially in feathering; second good, but longer in tail; third much smaller, but well shaped and in fair condition. The first hen is a splendid bird all round; second clear in pencilling, but a little short of feather and narrower; third a big bird with too much comb. If we mistake not we have seen some of Captain Heaton's team in another name this season. The first cockerel is a model in shape, good in colour, but not large; second young-looking and massive; third too big in comb, but very bright in colour, which we think a great point and one rather too little thought of at present. First pullet is splendidly pencilled, but has some tail; second good in shape, with very clear but rather heavy pencilling; third in some ways a falling-off from the first and second, but a good all-round pullet. Mr. Darby's wonderful old White cock bird is again to the fore, looking a little past his prime and hardly through the moult, still his white is glistening and such as we know in no other bird; second must have been near him, a very fine bird in shape and in capital condition, though the least yellow; third fine too. The first hen is well ahead and in capital condition; second an old friend, small, but beautiful in form; third a model of shape, but a little rough from the moult. The first cockerel is the Oxford winner, now a little more yellow. We believe that a protest was lodged against this bird, but not sustained, though not pronounced frivolous. Second a short-legged bird, good in shape, colour, and feather; third a fine cockerel, a little longer on leg than we like. The first pullet (to use an hibernicism) was an old hen. A protest was lodged against the award and sustained, but the card of disqualification was subsequently removed and one substituted to the effect that the bird was exhibited by mistake in a wrong class. We hope to hear some further explanation of this explanation. Second a pretty very white pullet; third a well-shaped hocked bird, but a little yellow. Time failed us to examine the Blacks and Cuckoos satisfactorily, so we must leave them till next week.

Dark Brahmas.—Old cocks are a good class, numbering eighteen. First is a grand hocked bird heavily feathered. He will look much better in a few weeks' time, being hardly through moulting yet. Second is a large bird, rather coarse in head, with a tendency to squirrel tail. We thought he might have given place to the third-prize bird, which, though in poor condition, looked the better of the two. Lady Gwydyr's very highly commended is another good one out of condition. The cup hen is a beautifully marked bird, and good in shape and feather, but we did not like her comb. Second and third are well-made birds, good in marking but not so well feathered as they might be. Miss Shuter's highly commended pair are both of a good sort, densely marked, and look likely to breed good cockerels. We noticed many hens in this class have combs which are very nearly single, a fault which greatly spoils the appearance of the head. Cockerels muster thirty-four pens, which we did not think up to the average of the last few years. The cup went to a well-made hocked bird with the best comb in the whole class. Second is a wide bird also hocked, as in fact are most of the winners in the Brahma classes. This one would probably have taken first had he not had crooked middle toes. Third and fourth are both fair birds, rather loose in comb. The fifth-prize bird will look better in a few weeks, having hardly yet got his hackle. Miss Shuter's very highly commended pen is very good, and we thought 518 (Earle) might have been mentioned. The class for mottled-breasted cockerels is poor. The first is a fair bird, and so is the fourth, but we did not like either second or third. Pullets are a large class (53), and there are many very good birds. The cup was awarded to a beautifully marked one with a most perfect head. She might have had a little more leg-feather with advantage. Second and third are both well-marked birds, good in shape and feather. Fourth is a densely marked pullet, and Miss Hunter's other pens are of the same character, 597 (Peake) is also a very well-marked one, though failing a little on cushion.

Light Brahma cocks are a small but very good class. First is a grand old bird, good in colour and very heavily feathered; second is a well-known winner; third is a good bird, but rather wanting in chest. 633, unnoticed, was the cup cockerel in 1875, and we think fully deserved a very highly commended. The cup hen failed a little in colour, but is otherwise very good. The second and third awards would have been better reversed, as the latter is much the larger of the two, and nearly equal in other points. Fourth is a good bird but rather out of condition. The cup cockerel is a splendid bird, with hardly a fault; second we thought a great mistake, he is hollow-chested, grey on fluff, and very leggy; third is a much better bird, but rather poor in condition, and not as well shown as Mr. Lingwood's birds usually

are; fourth is a good bird heavily marked; fifth and sixth both pretty good. 680 (White), and 613 (Haines) both good pens, and better worth mentioning than some that were highly commended. 704 (Breeze) is also good. Light pullets number nearly fifty pens. The cup went to a very good bird belonging to Messrs. Birch; second, we did not much like, being rather hooked and leggy. Fourth would have very likely beaten her if she had been properly washed. Third is a good one, but rather creamy. Fifth and sixth are both good birds but badly shown. 709 (Evans) a very good pullet, and might have been higher if she had been properly washed.

There is nothing of any great merit in the Selling classes, with the exception of Mr. Lucas's first-prize cockerel, which is much better than many in the open class.

Houdans.—Houdan cocks are a numerous class, but are not correspondingly good. Many are diseased in feet, and many are also backward in plumage; of course these latter will improve with time. First is a fine bird, very large, fine in colour, good in comb, and fairly good in crest, although we should like to see him better in this respect; second large and good in colour, but deficient in crest and bad in feet; third not perfect in comb, but pretty fair in other points. 870 (Lane) is a very good bird. 856 (Howard) a large bird, but fails in crest. 868 (Thomas) is good, but backward in plumage. Houdan hens number twenty-four, and are better than the cocks. First-and-cup a grand hen, very large and good in marking, but scarcely good enough in crest and beard; second is the old champion hen, now growing bad on her feet, otherwise very good, beautiful in marking, fine in crest, and a large bird; third magnificent in crest and good in colour, but poor in body. 879 (Daniel) a fine hen, but a little feather-legged. 884 (Vallance) splendid in colour. 889 (Wood) a beautiful hen, good in feet, fine in crest, and worthy of a prize. 892 (Thomas) a well-known hen, last-year's winner, splendid in crest, but rather light in colour. 895 (Thomas) last year's cup pullet, splendid in crest, but moulted very light. In Houdan cockerels first very dark, splendid leaf comb, large in size, and fair in crest; second a good heavy-bodied bird; third large and good in colour, but rather poor in crest; fourth a good bird of nice colour. 903 (Boissier) good excepting comb. 906 (Rinboul) and 907 (Naylor) are good. 955 and 957 (Dr. Lloyd) are very good Crèves, entered in this class by mistake. In pullets there are thirty-nine entries. First good in body, well marked, and fair in crest; second a good dark pullet, nice crest, and of good size; third an evenly marked pullet with a fair crest; fourth has a good crest. 951 (Vallance) a good pullet. 956 very regularly marked. 962 (Coplestone) very good, rather dark. 959 (Wood) a splendid pullet, one of the best in the class; a good crest, rather dark.

In Crève cocks first-and-cup a most beautiful bird, in fine condition and with good head; very much like a bird that used to be shown by Mr. Feast. Second good in crest and comb; third good in size and comb, but a little white in crest, which does not improve his appearance. 976 (Ward) and 979 (Longman) are both good and very large. Cocks have only nine entries, but hens come out in greater force. First rather small in crest, otherwise very good; second a very good hen if she is not wry-tailed; third fine in size and crest, and in good plumage. 985 (Mackwell) and 987 (Burrell) are good. 988 (Ward) a very fine hen. In cockerels of this variety first is of fine size, crest and comb also good; second splendid except in crest, which is better in front; third very good. In pullets first is a splendid massive bird grand in crest; second very good with a compact crest; third a well-crested pullet. 1013 and 1015 (Höbert), and 1014 (Wood), are good birds.

Hamburgs.—In Golden-spangled Hamburg cocks first-and-cup rather large in comb, good in ears, well marked on breast and wings; second very good in comb, ears, and colour, nice bars and breast; third good in comb and earlobe. In hens, first-and-cup for Spangled Hamburgs is very well marked; second a well-mooned hen; third a well-marked glossy-plumaged bird. In Silver-spangled cocks first very handsome; second a well-marked bird, though he might be rather clearer; third we liked better than second. In hens, first a rather dark but well-marked hen; second a beautiful bird; third a well-mooned hen. In Golden-pencilled cocks first a cockerel good in ears, comb, colour, and tail; second a richly-coloured cockerel with fine head; third well coloured. In hens, first a well-pencilled pullet; second well marked; third good in pencilling and ground colour. In Silver-pencilled cocks, first, which wins the cup, in splendid condition, tail, ears, and comb good; second also good in comb, ears, and tail; third a good bird. In hens, first very sharp and clear in pencilling, also good in other points; second well pencilled; third rather young but well marked. Black Hamburgs mustered well. In cocks first a young bird, very neat in comb and ears; second a fine glossy cockerel, good in head properties; third a good cockerel in fine plumage. In hens the winners are all glossy birds of excellent quality. The Hamburg classes contain many birds of high merit.

Polish.—Golden Poland cocks are the best class of the Polish tribe. First a beautiful bird, in fine plumage and good in crest and markings. Second should not have a place here, as others are his superiors. Third a good bird, which will be better in the

course of a few weeks. In hens—first, a most beautiful pullet, well marked and very fine in crest; second, a very light-coloured hen, not well marked, but large in crest; third is a good hen with excellent crest. In Silver cocks—first, which wins the cup, is a very fine bird with good crest; second and third are both good, but neither are quite ready yet, especially the latter. In hens the winners are all very good birds, capital in crest, although we think we had seen Mr. Adkins turn out better. In the variety Polish class of cocks, first a good untrimmed Black with fair crest; second, a fair bird of the same colour; third, a White of moderate merit. In hens—first a fine and well-known Black; second a beautiful Buff, well marked and good in crest; third a White. In these classes two birds were disqualified for trimming. It is time the matter was settled; if trimming is to be illegal, which we should be glad to see the case, the fact should be made known. We think some more birds in these two classes might have been selected for this distinction.

THE PIGEONS.

This I believe is the tenth regular annual Show at the Palace—I am not sure whether it is not the twelfth. There was a time long, almost long long, when there was a show there for a year or two, when heads now grey were brown, or scalps now bald were well thatched; then came a pause, and then the regular annual exhibition, which is indeed the Derby of the fancy. The Palace has therefore been very true to us. The Alexandra and the Aquarium flirted with the fancy and then broke acquaintance, but the old palace of glass at Sydenham is true as steel. It is the fanciers' trysting place, where we are sure to meet, even if we meet not any time besides. This year I understood that a circus had taken up the transept, that a lot of galloping horses had intruded themselves, and consequently I went in no amiable mood, not liking the old place to be so used and the associations of years to be so broken. However, I quickly changed my mind when once at the Show. From end to end the grand nave was full of birds. From the first entrance, where the kings and queens look down, was the poultry up to the transept, then the circus—a not-bad break; then on the whole length, in three lines, came the Pigeons up to tropical department, yea, within it still Pigeons; so that from end to end the fancy was in possession of the whole length of the long building. It was the old friend with a slightly new face, but an improved face, for the Show gained in importance by this arrangement. But what about the quality of the Pigeons? I venture to say it was the very best Show ever seen—in number of pens over sixteen hundred, in quality as yet unsurpassed.

One first remark before describing the classes. The whole of Monday must in future be given up to the Judges. When I left, at seven o'clock in the evening, the whole of the cards were not on, and I cannot wonder, for Judges are rightly careful, and the quality of the birds added to the number makes a great difficulty. Now for the pens.

Pouters, originally from imitation of Glasgow Show, put first. Blue Pieds and Whites the cream; first, second, third, and extra third prizes for cocks of the former colour. Blacks.—The first-prize excellent. The cup Red (2555) elegant. No Yellow took a prize among the old birds. Among the Pouters of this year the cup hen (Beckwith), once owned by Mr. Bullen, a superb bird; also the first Blue hen, very choice. *Pigmies* much as usual.

Carriers.—The champion class select, and but few as natural. The cup Black cock (2665) very grand, especially as he faced one; beak foremost to the eye. The Black hens were even superior to the cocks. First-prize (2680) wonderfully out of moult. It looked as if it had fallen into the pig tub. Dun hens better than cocks. Blues an advance. Cup (2735) good *jev*, and one of the best birds ever seen. Blue hens very good as well. Other coloured Carriers, chiefly Whites, but first-prize a Silver Dun; third a good Silver; second White and large. Of the Carriers of 1878 (the youngsters) they are a capital racey lot of birds; most promising. The Judges, who are always fond of the rule of three, gave even a fourth prize in the cocks. Cup hen (Blacks) sold for £50.

Dracons an enormous class. Blues most excellent as to prize birds, pure in colour and fine in points. Many besides the winners first-rate. Mr. Woods is a wonderful winner. Many a man would be a Mr. Woods if he could! Beautiful brown-barred Silvers, good deep-coloured Reds and Yellows, Whites not quite so good. The young Dracons promise well.

Almond Tumblers.—Cup cock a bird of colour. Hens.—First prize (3188) sound in ground colour, that difficult point, as also second-prize. The Short-faced Balds and Beards more numerous than formerly. Red and Yellow Agates and a whole Red took prizes among the cocks, while a Kite headed the hens. The *Barbs* scarcely so numerous as usual I fancy, but the names of Fulton, Maynard, Ecroyd, and Hedley suffice to prove their excellence. *Jacobins* hard indeed to judge, so level were the best. Reds deeper in colour than formerly, and abundance of stuff in them. Yellows.—Cup (3367) superb in hood and chain. Black.—Cup (3395) perhaps the best ever shown. The Whites still few, and a coloured one took one of the three prizes. *Fantails.*—In these birds the Judges have gone back to more of the English style—less motion stouter birds. Mr. Cresswell's tasty dainty hen only third. A

good Black of Miss Dickinson's was first among the Coloured Fans. *Nuns* more numerous than usual. *Trumpeters* very few, but very choice. *Owls* very abundant, and among them a few Powder-blue, but not quite what they were years ago. *Englis* strong and good, Foreign but few; but both included made huge classes. *Turbits* again evidently great favourites, the classes being overwhelming. A new class—namely Turbiteens, which, though but six in number, were highly deserving. A capital show of *Maggies*, a strong class of Archangels, which I feared were a dying-out variety, *Runts* looking up and weighing down heavily, a nice clean pretty class of flying Tumblers. *Antwerps*, very numerous. Some of these and the Selling class were in the tropical department, together with those gems of gems the cages containing the best collection of four pairs of Pigeons, exclusive of Carriers and Pouters. Mr. Salter was first with a cage of *Maggies*, *Owls*, *Jacobins*, and *Turbits*. Second, third, and even fourth prizes followed; Beckwith, Maynard, and Fulton having the honours in rotation as placed. Special flying classes of homing *Antwerps* finished up the Show, which I again state as being the best exhibition ever seen in England.

The new arrangement will, I hope, be adhered to in future years. Long lines of pens are better than short ones; the Show is less broken into bits, and non-fanciers see the birds in a more imposing and therefore more attractive state.—WILTSHIRE RECTOR.

POULTRY.

DORKINGS.—*Cock*, *Red-Cock*.—H. H. Lingwood, 3, R. W. Beachey, *chc.* O. E. Cresswell, *Hen*.—1 and Cup, F. Parlett, 2, J. Walker, 3. Mrs. R. Wood, 4 and *chc.* T. Briden. *Cockerel*.—1, Cup, and 2, J. A. & M. S. Smyth, 3, W. G. Mulligan, 4, T. W. & L. Hind, 5, Rev. R. S. S. Woodgate. *Hens*.—J. Taylor, T. C. Burnell (2). *Pullet*.—1 and Cup, J. Walker, 2, Rev. H. R. B. Jones, 3, J. Everett, 4, T. C. Snell, 5, J. Taylor, *chc.* J. Taylor, T. C. Burnell. *Silver-Laced Game*.—1 and Cup, E. W. Beecher, 2, J. Taylor, 3, Miss Parlett, 4. *Leg-Hen*.—1 and 2, T. C. Burnell, 3, Miss Parley, *chc.* R. A. Boissier. *Cockerel*.—1 and Cup, O. E. Cresswell, 2, W. G. Mulligan, 3, P. Ogilvie. *Pullet*.—1, Mrs. Wachter, 2, O. E. Cresswell, 3, W. Roe, jun. *Bur or Cuckoo*.—1, H. H. Young, 2, W. Bishop, 3, R. Peake. *White-Cock*.—1 and Cup, O. E. Cresswell, 2, W. Roe, jun., 3, H. H. Young. *Blue-Cock*.—1 and Cup, R. A. Boissier, 2, H. H. Young, 3, R. Peake. *Blue-Game*.—1 and Cup, R. A. Boissier, *chc.* Rev. F. Tearle, Mrs. M. A. Hayne, H. J. Ivery. *Auc d'Or*.—1, M. Leno, jun, 2, F. Parlett, 3, Mrs. J. L. Logan, 4, T. Briden.

COCHINS.—*Cinnamon or Buff*.—*Cock*, 1, T. P. Ye. 2, W. Wright, 3, Mrs. A. Christy. *Hen*,—1, Cup, and 2, G. H. Procter. 3, Mrs. Alsopp. *ehc*, A. E. W. Darby, 3, J. O. Rigg, Capt. A. F. Lendy, Mrs. H. Shutt, J. Cattell, Mrs. W. Paxon. B. Smith. *Cockerel*.—1 and 2, T. P. Ye. 3 and 4, G. H. Procter. *ehc*, H. Lindwood. *Pullet*.—1 and Cup, Lady Gwydyr. 2, G. H. Procter. 3, E. Burrell. 4, W. Wright. *ehc*, W. P. Myland, G. H. Wood, T. Jenkins. *Partridge*.—*Cock*, 1, J. J. Wood. 2, R. P. Percival. 3, H. Tomlinson. *Hen*.—1, Capt. H. Heaton. 2, J. J. Wood. 3, E. Audman. *ehc*, J. F. Saltmarsh, R. P. Percival. *Cockerel*.—1, Cup, and 2, H. Heaton. 3, H. Tomlinson. *Pullet*.—1, Capt. H. Heaton. 2, Mrs. Gordon. 3, Capt. H. Heaton. *ehc*, R. R. Fowler & Co., G. B. C. Breze. *White*.—*Cock*,—1, A. E. W. Darby. 2, P. H. Chase. 3, J. T. Holmes. *ehc*, H. Tomlinson. *Hen*.—1, H. Tomlinson. 2, R. R. Fowler & Co. 3, A. E. W. Darby. *Cockerel*.—1, P. H. Chase. 2, Mrs. J. Percival. 3, A. E. W. Darby. *ehc*, C. & E. Naylor. *Pullet*.—1 and Cup, R. P. Turner. 2 and *ehc*, R. R. Fowler & Co. 3, P. H. Chase. *Black*.—*Cock*,—1, A. E. W. Darby. 2, Lady Gwydyr. 3, Miss Lightfoot. *Hen*.—1 and 2, A. E. W. Darby. 3, Mrs. J. Turner. *Cockerel*.—1, Mrs. J. Turner. 2, E. Kendrick, jun. 3, J. Mansfield. *Pullet*.—1, E. Kendrick, jun. 2, T. W. Fletcher. 3, Lady Gwydyr. *Black*.—*Cock*,—1 and 2, J. H. Cunn. 3, T. Aspden. *Any variety*.—1, J. Bloodgood. 2, Mrs. Aspden.

2. *Blackwork*, 2. *Mr. Gordon*, 3. *P. Ogilvie*,
 4. *W. Braham*, *Dark—Cock*—1, E. Kenrick, jun., 2. *L. C. R. Norris*, 3. *G. W. Percival*, *Light—Lady Gymp*, *Hen*, and Cup, E. Pritchard, 2. *R. P. Percival*, 3. *Rev. T. H. Horsfall*, *Dark—Cock*—1 and Cup, J. Wood, 2 and 4. *L. C. R. Norris*, 3. E. Pritchard, 5. J. Gilbert, *The Misses Shuter*, *L. C. C. R. Norris*, *Dark Mottled-breasted—Cockerel*—1, Dr. J. Macrae, 2. J. Gilbert, 3. E. Kendrick, jun., 4. R. P. Percival, *Dark—Pullet*—1 and Cup, H. Lingwood, 2. J. Wood, 3. R. P. Percival, 4. Miss E. Shuter, 5. T. Pye, 6. E. Kendrick, jun. *chc*, *Rev. T. C. Peake*, *Selling Class*—1, R. A. Baker, 2. E. Kendrick, jun., 3. G. Bennett, 4. T. F. Ansell, *Light—Cock*—1, J. Mitchell, 2. H. C. White, 3. S. Lucas, 4. Dr. G. A. Angier, *Hen*—1 and Cup, J. & W. Birch, 2. Dr. E. Snell, 3. G. W. Petter, *Cockerel*—1 and Cup, G. W. Petter, 2 and 3. G. B. C. Breeze, 3. H. Lingwood, 4. *Lady Gymp*, 6. T. Evans, *Pullet*—1 and Cup, J. & W. Birch, 2. G. Petter, 3. F. Haines, 4. T. Evans, *Lady Gymp*, 5. H. C. White, *chc*, G. C. G. G. G. *Selling Classes*—*Light*—1, A. I've, 2. G. W. Petter, 3. F. Haines, 4. J. Windred, 5. Dr. G. A. Angier, *Dark or Light—Hens or Horses*—1, R. P. Percival, 2. J. A. Beames, 3. M. Leno. sen., 4. G. W. Petter,

SPANISH.—*Cock*.—1 and Cup, D. M. Mills. 2 and 3, W. R. Bull. *Hen*.—1 and 2, P. F. Le Sueur. 3, G. Thomas. *Cockerel*.—1, P. F. Le Sueur. 2, J. F. Dixon. 3, J. Powell. *Pullet*.—1, J. Woods. 2, A. Bell. 3, J. Powell.

HOUDANS.—*Cock*.—1, Mrs. Vallance. 2, A. Ogden. 3, W. H. Copplestone.
Hen.—1 and Cup, J. Graham. 2, Mrs. Vallance. 3, A. Ogden. *viz.*, S. W. Thomas. *Cockerel*.—1, R. B. Wood. 2, G. D. Harrison. 3, C. & E. Naylor. 4, A. Rimboul, jun. *Pullet*.—1, R. A. Boissier. 2, G. D. Harrison. 3, W. Nicholls. 4, A. Rimboul, jun.

CREVE-CŒURS.—*Cock*—1 and Cup, Mrs. E. Dorset. 2, W. R. Park. 3, E. Burrell. *Hen*—1, H. Stephens. 2, W. Wilkins. 5, G. W. Hibbert. *hic*, J. Ward. *Cockerel*—1, J. Ward. 2, W. R. Park. 3, R. B. Wood. *Pullet*—1, E. Burrell. 2, R. R. Fowler & Co. 3, J. Ward.

HAMBURGHs.—*Golden-spangled*, *Cock*—1, J. Jackson, 2 and 3, C. & W. May. *Hen*—1 and Cup, J. Jackson, 2, H. Beldon, 3, T. Blakeman. *Silver-spangled*—*Cock*—1, J. Fielding, 2 and 3, H. Beldon. *Hen*—1 and 3, H. Beldon. 2, Ashton & Booth. *Golden-pencilled*—*Cock*—1, Miss D. Mackenzie, 2, H. Bourne, 3, J. Long. *Blue*, T. F. Carver, Dr. E. Snell. *Hen*—1, J. Smith, 2, J. T. Castell, 3, J. Calcutt. *Black*—*Cock*—1, Cup, and 3, H. Beldon, 2, *Hen*—1, H. Beldon, 2, J. T. Castell, 3, J. Long. *Black*—*Cock*—1, Stott & Booth. *H. Beldon*, 3, J. Pickup, 4, J. W. Kelleway, J. Long. *Hen*—1, J. H. Howe, 2, L. Barnett, 3, J. W. Kelleway.

GAME-Black R. Cock—1, H. H. Hall, 2, T. P. Lyon, 3, Hon. & Rev. F. Dutton. *vhc*, A. H. Randall, S. Mathew. *Cockerel*—Cup, S. Mathew, 2, S. Mathew, 3, W. P. Pope, 4, T. P. Lyon. *Hen*—1, R. Garnett, 2 and 3, W. J. Pope. *Pullet*—Cup, W. J. Pope, 2, Dr. Etheridge, 3, J. H. Haisall, 4, S. Mathew. *vhc*, R. K. Lempiere. *Brown Red*—Cock—Cup, H. E. Martin, 2, W. A. Fenwick, 3, S. Mathew. *Cockerel*—1 and Cup, R. Taylor, 3 and 4, H. E. Martin. *Hen*—1, H. E. Martin, 2, H. H. Hall, 3, J. H. Goodwin, 4, V. S. Haisall. *Pullet*—1, F. Warde, 2, W. Watson, 3, W. Webster. *vhc*, F. Fenwick. *Dutch*—*ving*—Cock—1, H. E. Martin, 2, A. Cameron, 3, H. E. Martin. *Cockerel*—1, S. Mathew, 2, H. E. Martin, 3, D. Harley. *Hen*—1, S. Mathew, 2, T. P. Lyon, 3, D. N. J. Thomas. *Pullet*—1, D. Harley, 2, J. A. & H. H. Staveley, 3, J. Craven & Son, 4, J. Goodwin. *Any other variety*—Cock—1, W. Adams, 2, J. Haisall, 3, H. H. Hall. *Cockerel*—Cup, and 3, J. Colgrove, 3, F. J. Nalder, 4, H. H. Hall. *Hen*—1, H. H. Hall, 2, J. Colgrove, 3, F. J. Nalder, 4, W. J. Pope. *Pullet*—1, J. H. Haisall, 2, W. J. Pope, 3, J. Colgrove, 4, W. R. Smith. *Selling Class*—1, W. A. Swan, 2, H. M. Maynard, 3, J. Braithwaite, jun.

MALAYS.—*Cock*—1, J. S. Bater. 2, J. Downing. 3, J. F. Walton. *Hen*—1, T. Eaves. 2, R. Hawkins. 3, T. B. Lowe.

POLISH.—*Golden-splunged*—1, E. Burrell. 2, Mrs. E. Dorset. 3, H. E. Brant. *Hen*—1, E. Burrell. 2, Rev. C. W. Shepherd. 3, G. W. Boothby.

Silver-splunged—*Cock*—1, Cup. and 2, G. C. Adkins. 3, A. & W. H. Silvester.

Hen—1, 2, and 3, G. C. Adkins. *Black, or any other colour*—*Cock*—1, Dr. E. Lloyd. 2, J. North. 3, H. W. Reville. *Hen*—1, T. Norwood. 2, H. Beldon. 3, H. W. Reville.

LEIGHORNS.—*Brown*.—Cock.—1 and Cup, R. Strong. 2, R. D. Wood. 3, J. C. Fraser. *Hen*.—1 and 2, W. Philcox. 3, E. Ayre. *White*.—Cock.—1, Bradbury Bros. 2, R. Harvey. 3, J. C. Fraser. *Hen*.—1 and Cup, Mrs. Troughton. 2, J. C. Fraser. 3, T. Norwood. *vhc*. Miss Handfield.

ANDALUSIANS.—Cock.—1 and Cup, Mrs. Troughton. 2, Mrs. Cross. 3, M. W. L. Brook. Hen. 1, W. Wildey. 2, M. A. Wilson. 3, Rev. S. Ashwell.

SULTANS.—Cup, Mrs. T. W. S. Damant. 2, Mrs. A. Christy. 3, C. Atkinson.
LANGSHANS.—Cup, Miss Mill. 2, Miss Willcox. *Cockerel*.—1 and Cup, G.
Heaselden. 2, R. H. Bush. 3, W. Morris. *Pullet*.—1, S. Coweles. 2, W. Morris.

ANY OTHER VARIETY.—1, Rev. R. S. S. Woodgate. 2, R. R. Fowler & Co. 3, R. J. Brewer.

SELLING CLASSES.—*Dorkings, Brahmas, or Cochins.*—Cock or Cockerel.—1, S. Lucas. 2, C. & E. Naylor. 3, J. Virgo. 4, J. Buckmaster. 5, Dr. G. A. Angier. *Hens or Bantams.*—1, J. Virgo. 2, J. Buckmaster. 3, E. Parlett. 4, E. Parlett. 5, Dr. G. A. Angier.

[illegible]

J. A. W. Darley.
 1. GAME BANTAMS.—*Black Red*.—Cock—1 and cup, T. W. Anns. 2. *E. Walton*.
 2 and 4, W. F. Addie. 3, W. Shaw. *Hen*.—1 and cup, F. W. R. 2, W. F. Addie.
 3, W. Adams. 4, *Green Neck*.—Cock—1, W. F. Addie. 2, J. H. & A. Stretch.
 3, E. Walton. *Hen*.—1, J. H. & A. Stretch. 2, E. Walton. 3, S. Brighton. *Duckling*.—Cock—1, J. Smith. 2, M. A. Wigham. 3, S. Brighton. *Hen*.—1, E. Walton. 2, J. Nelson. 3, George Hall. *Pile*.—Cock—1 and cup, E. Walton.
 2, R. Brownlie. 3, G. Hall. *che*. R. Brownlie. W. F. Addie. *Any colour*.—Cock—1, W. F. Addie. 2, R. Brownlie. 3, F. Davis. *Selling class*.—1, R. Brownlie. 2, E. Walton. 3, J. H. & A. Stretch.

1. B. A. Adams. *Birds*.—Cherish. 2. E. W. H. Shackleton. 3. S. Clapham. *Booted*,
 any colour.—1. Mrs. Troughton. 2. W. Lowes. 3. W. Adams. *Sebright*.—1. E.
 Walton. 2. Rev. F. Teagle. 3. M. Leuco. *Chc. A. Pratt*. Any other distinct
 variety.—T. F. Phelps. 2. W. O. Hodges. 3. Mrs. Brassey. *Any variety except*
Game.—Selling class.—1. J. Lushington. 2. J. Cockroft. 3. G. Griggs. *Any*
variety.—Selling class. 1. G. Hall. 2. A. & W. H. Sylvester. 3. C. Martin.
 DUCKS.—Aylesbury.—1 and cup, R. R. Fowler. 2. J. Hedges. 3. E. Snell.
ric. T. Sear. *Pekin*.—1 and cup, R. R. Fowler. 2. W. Bygott. 3. E. Snell. 4.
 H. Allen. *che*. R. R. Fowler. *Rouen*.—Drake.—1. E. Snell. 2. R. R. Fowler. 3.
 J. Newton. 4. J. A. Barber. *Kouen*.—1 and cup, R. R. Fowler. 2. A.
 & W. H. Sylvester. *Black*.—1 and cup, J. A. Barber. 2. J. Malden. 3. Miss E.
 Browne. 4. R. M. Hayne. 4. L. W. Kellaway. *Any other variety*.—1. Rev.
 W. Sergeantson. 2. H. J. Ludlow. 3. J. Trickett. *Selling class*.—1. T. Wake-
 field. 2. H. Allen. 3. J. Hedges. GEESSE.—Cup, J. Everett. 2. J. & W. Birch.
 3. Captain L. Anyon.

TURKEYS.—*Any variety*.—Cup, Mrs. A. Mayhew. 2, J. & W. Birch. 3, F. Warde. *Any variety*.—*Cockerel*.—1 and 2, W. Wykes. 3, H. J. Gunnell. *Any variety*.—*Hen*.—1, Rev. N. J. Ridley. 2 and 3, W. Wykes.

PIGEONS.

POUTERS.—*Blue-necked-Cock*, 1, W. Nottage, 2, J. Baker, 3, J. Guthrie, *rch*, J. Dye. *Hen*, 1 and 3, J. Baker, 2, E. Beckwith. *Black-pied-Cock*, 1 and 3, R. Fulton, 2, J. Baker. *rch*, R. Fulton, J. Baker. *Hen*, Cup 1, and 2, J. Baker, 3, J. D. Lang. *Red or Yellow-pied-Cock*, Cup and 1, J. Dye, 2, R. Fulton, 3, J. D. Lang. *rch*, 1, R. Fulton, 2, J. D. Smith. *Black-Cock*, *rch*, Al. H. Gill, J. Dye. *White-Cock*, 1 and 2, J. Baker, 3, E. Beckwith. *rch*, Rev. W. C. Bullen, J. Dye. *Hen*, Cup and 1, E. Beckwith, 2, Rev. W. C. Bullen, 3, J. D. Lang. *rch*, J. H. Smith, J. Dye. *Any Colour-Cock*, Cup and Challenge Cup, Rev. W. C. Bullen, 2, R. Fulton, 3, E. Beckwith. *rch*, G. D. Webb, D. D. Combe. *Any Colour-Cock*, Cup and 1, H. W. Webb, *rch*, E. Beckwith, D. Combe. *Pigmy or Austrian-Cup* and 1, H. W. Webb, 2, R. Fulton, 3, Dr. E. Hicks.

CARRIERS.—*Blue-Cock*,—Cup, 1 and 2, Capt. H. Heaton, 3, H. Stephens. H. M. Maynard. *Hen*,—1, R. Fulton. 2 and 3, Capt. H. Heaton. *ehc*, R. Fulton; 2, Hallam. *Young Cuck*—1 and Cup, H. Heritage. 2, H. Stephens. 3, Cucksey & Plicker. 4, H. Parker. *ehc*, J. E. Palmer; F. Cox; W. G. Hammond. *Young Hen*—1 and Cup, H. M. Maynard. 2, Capt. H. Heaton. 3, G. Winter. *ehc*, R. Fulton; H. Goodman. *Dun-Cock*,—1 and 2, Capt. Heaton. 3, R. Ecroyd. *ehc*, R. Ecroyd; R. Fulton. *Hen*,—Cup, 1, and 2, R. Fulton. 3, H. M. Maynard. *Young Cuck*,—1, T. Hallam. 2, H. Stephens. 3, F. Cox. *Young Hen*,—1, E. Burton. 2, H. Heritage. 3, R. Fulton. *Blue-Cock*,—1 and 2, H. M. Maynard. 3, R. Cant. 4, G. H. Gilliam. *ehc*, W. H. Reid. *Young Cuck*,—1 and Cup, R. Fulton. 2, H. M. Maynard. 3, R. Cant. 4, G. H. Gilliam. *ehc*, W. H. Reid. *Young Hen*,—1, G. H. Gilliam. 2, Dr. G. F. Jones. 3, R. Fulton. *Young Cuck*,—1, H. M. Maynard. Cucksey & Plicker. 3, C. Clarke. *Selling Classes*.—*Cock*,—1, H. Parker. 2 and 3, H. Maynard. *Hen*,—1, H. M. Maynard. 2, J. Reid. 3, C. G. Cave.

FLA. DRAGONS.—*Blue*.—*Cock*—1 and Cup, E. Burton. 2, R. Woods. 3, W. G. Flanagan. 4, A. McKenzie. *whc*, T. C. Burnell. *Hen*—1 and W. Smith. 2 and 3, R. Woods. *Silver, Black-bars*.—*Cock*—1 and 3, R. Woods. 2, W. G. Flanagan. *whc*, A. McKenzie; T. C. Burnell. *Hen*—1 and Cup, A. McKenzie. 2, T. Burnell. 3 and *whc*, R. Woods. *Brown-bars*.—*Cock*—1, 2 and 3, W. Bishop. *Hen*—1 and Cup, A. McKenzie. 2 and 3, W. Bishop. *Yellow*.—*Cock*—1, R. Woods. 2 and 3, A. Leith. *Hen*—1, R. Fulton. 2, W. Sargent. 3 and *whc*, R. Woods. *Red*—1, W. Sargent. 2, A. Leith. 3, R. Woods. *whc*, G. H. Thomas. *White*—1, R. Fulton. 2, R. Woods. 3, W. Bishop. *whc*, J. Guthrie. *Any other Colour*.—*Cock*—1 and 2, T. C. Burnell. 3, A. McKenzie. *whc*, R. Woods. *Hen*—1, A. McKenzie. 2 and 3, R. Woods. *Blue or Silver, Black-bars*.—*Young Cock*—1, J. Lush. 2 and 3, R. Woods. 4, G. H. Thomas. *whc*, W. G. Flanagan. *Young Hen*—1, W. G. Flanagan. 2 and 3, R. Woods. *whc*, T. C. Burnell. *Yellow* or *whc*.—*Young Cock*—1 and Cup, W. Sargent. 2 and 3, A. Leith. *Young Hen*—1 and *whc*, A. Leith. 2, F. P. Ellis. 3, W. Sargent. *Silver, Brown-bars, or any other Colour*.—*Young Cock*—1, A. McKenzie. 2, R. Woods. 3, W. Bishop. *Young Hen*—1 and 2, W. Bishop. 3, R. Woods. *Any Colour*.—*Cock*—1, W. Sargent. 2, J. Lush, jun. 3, R. Woods. *whc*, A. Leith. *Hen*—1, C. Howard. 2, R. Woods. 3, M. J. Hose.

TYMBLERS—*Almond*—Cock—1 and Cup, R. Fulton. 2, J. M. Braid. 3, T. Hallam. *Hen*—1, 2, and 3, R. Fulton. *Young Bird*. 1 and 2, T. Hallam. 3, J. M. Bott. *Any other Variety*—Cock—1, J. Baker. 2, H. R. Tenney. 3, M. and J. Weston. *Hen*—1, G. H. Stevens. 2, J. M. Braid. 3, T. Hallam.
BARBS—*Black or Dun*—Cock—1 and Cup, M. Hedley. 2, J. Baker. 3, Wood. *Hen*—1 and *the* M. Hedley. 2, J. Baker. 3, W. Harrison. *Any other Colour*—Cock—1 and Cup, R. Fulton. 2, R. Ecrody. 3, M. Hedley. *Hen*—1, R. Fulton. 2, R. Woods. 3, M. Hedley. *Young Cock*—1 and Cup, R. Fulton. 2 and 3, M. Hedley. *Young Hen*—1, M. Hedley. 2 and 3, H. M. Maynard.
JACOBS—*Red Cock*—1, S. Salter. 2, H. Heritage. 3, J. Eyer. *Any other Colour*—Cock—1, S. Salter. 2, H. Heritage. 3, J. Eyer. *Hen*—1, S. Salter. 2, H. Heritage. 3, R. Fulton. *Any other Colour*—Cock—1, S. Salter. 2, H. Heritage. 3, R. Fulton. *Any other Colour*—1 and Cup, and *the* H. Heritage. 2 and 3, S. Salter. *Any other Colour*—1 and *the* S. Salter. 2 and 3, R. Fulton.

FANTAILS.—White.—Cock.—1 and Cup, O. E. Cresswell. 2, H. Goodman. 3, J. Water. *Hen*—1, H. Goodman. 2, J. F. Loveridge. 3, O. E. Cresswell. Any other Colour.—Miss Dickinson. 2, W. F. Footitt. 3, J. Taylor.

TRUMPETERS.—1 and 3, J. Lederer. 2, J. Baker.

OWLS.—English, Blue.—Cup.—1, and 2, S. Salter. 3, J. Barnes. English, Powder-Blue.—1 and 3, S. Salter. 2, R. Ercroyd. English, Silver.—Cock.—1, R. Ercroyd. 2 and 3, S. Salter. English, any other Colour.—1 and 2, S. Salter. 3, W. Merdith. English, Blue.—1 and 2, S. Salter. 3, E. W. Van Senden. *Hen*—1, J. Barnes. English, Silver.—1 and Cup, S. Salter. 2, J. Dye. 3, Ward and Lister. English, Powder-Blue or Silver, or any other Colour.—1 and 2, S. Salter. 3, J. Barnes. English, Blue or Silver.—Cup, 1, 2, and 3, S. Salter. English, Powder-Blue or Silver, or any other Colour.—1, 2, and 3, S. Salter. Foreign.—1 and Cup, J. Sparrow. 2, E. Beckwith. 3, Dr. J. Bowes. *Hen*—1, S. Salter.

TURBITS.—Blue or Silver.—Cock.—1, S. Salter. 2, R. Woods. 3, H. R. Tenney. *Hen*—Cup, G. Webster. 2, S. Salter. 3, T. C. Burnell. Red or Yellow.—Cock.—1, J. Baker. 2, T. C. Burnell. 3, C. A. Crafer. Any other colour.—Cock.—1, R. Woods. 2, R. Ercroyd. 3, T. C. Burnell. *Hen*—1, C. A. Crafer. 2, O. E. Cresswell. 3, R. Woods. Young.—1, J. Dye. 2, T. C. Burnell. 3, G. Webster. Young.—Cup, O. E. Cresswell. 2, C. A. Crafer. 3, S. Salter. TERBITEENS.—1, J. A. Winsloe. 2, H. W. Webb. 3, F. Winsler.

MAGPIES.—Black.—Cup, F. P. Bulley. 2, S. Salter. 3, F. P. Bulley. Red.—1, F. P. Bulley. 2, S. Salter. 3, W. Tidd. Yellow and any other colour.—1, J. Young. 2, J. F. Harvey. 3, F. P. Bulley.

ARCHANGELS.—1, S. Salter. 2, W. R. Rootes. 3, F. P. Bulley.

RUNTS.—1, H. Stephens. 2, H. Yardley. 3, J. S. Price. Young.—1, 2, and 3, J. S. Price.

FLYING TUMBLERS.—Bald or Bearded.—1, R. Woods. 2, J. Barnes. 3, C. W. Hobbs. Long-faced, any other variety.—1, Miss F. Frith. 2, H. E. Yates. 3, J. Mallett.

ANTWERPS.—Short-faced.—1, 2, and 3, R. Ercroyd. *Homing Blue or Blue-checked*.—Cock.—1 and 4, B. W. Browne. 2, G. Carvill. 3, C. Howard. *Hen*—1, J. Robertsshaw. 2, J. Wightman. 3, Wiggins. 4, S. R. Pearce. *Homing, any other colour*.—Cock.—1, G. Naden. 2 and 4, G. J. Lenney. 3, M. Bell. *Hen*—1, C. Howard. 2, G. Webster. 3, Cox and Norris. 4, F. W. Benham. *Hen*—1, B. W. Browne. ANY OTHER VARIETY.—1, J. S. Stephenson. 2, J. A. Winsloe. 3, J. Long. Special Flying Class of *Homing*.—Cock.—1, S. R. Pearce. 2, G. Burgess. 3, E. Wormald. 4, J. James. 5, J. J. Sparrow. *Hen*—1, W. Stephenson. 2, C. Payne. 3 and 5, G. J. Lenney. 4, F. W. Benham.

SELLING CLASSES.—Cock.—1, H. M. Maynard. 2, J. Reid. 3, W. Nottage. 4, J. Murphy. *Hen*—1 and 2, H. M. Maynard. 3, W. Dale. 4, T. Wicks. *Red*.—1, H. M. Maynard. 2, E. W. Van Senden. 3, D. Young. 4, D. Knight. *Hen*.—W. Dale. R. Woods. G. Murphy.

BEST COLLECTION OF FOUR PAIRS OF PIGEONS EXCLUSIVE OF CARRIERS. AND POUTERS.—1, S. Salter. 2, E. Beckwith. 3, H. M. Maynard. 4, R. Fulton.

BEST PAIR OF ANY VARIETY BRED IN 1878, EXCLUSIVE OF CARRIERS, POUTERS, BARBS, AND TUMBLERS.—1, G. H. Thomas. 2, J. Bowes. 3, R. Woods. *Hen*. J. Schweitzer.

DERBY CANARY AND ORNITHOLOGICAL SOCIETY'S SHOW.

THE twenty-first annual Exhibition of Poultry, Pigeons, Rabbits, Canaries, and British and foreign birds, was held in the Royal Drill Hall, Derby, on the 8th and 9th inst., when the following prizes were awarded:—

POULTRY.—DORKINGS.—1 and 2, B. Smith. 3, J. Stott. *Hen*. W. H. Crewe. COCHINS.—1, Dr. E. V. Snell. 2, H. Tomlinson. 3, T. C. Morris. *Hen*. G. Richardson. BRAHMAS.—Dark.—1, T. S. Clarke. 2, G. W. Henshall. 3, W. H. Edmondson. *Hen*. G. A. Eastwood. Light.—1, T. S. Clarke. 2, Mrs. L. Turner. 3, H. Hurst. *Hen*. G. N. Viscroft. GAME.—Black Red.—1, J. F. Hollingworth. 2, W. Green. 3, C. Spencer. *Hen*. T. Whitehead. Broken Red.—1, J. Calladine. 2, R. Ashley. 3, A. Piggitt. *Hen*. E. Waters. Any other variety.—1, J. Stoppard. 2 and 3, Mrs. E. Bell. *Hen*. J. Frith. Any variety.—Cock.—1, J. Frith. 2, Mrs. E. Bell. 3, R. Taylor. *Hen*. G. Brentnall. HAMBURGS.—Gold or Silver-pencilled.—1, J. W. Beale. 2, E. East. 3, C. Pickering. *Hen*. R. Fletcher. Gold or Silver-spangled.—1, T. E. Jones. 2, W. Boocking. 3, T. May. *Hen*. F. H. Smith. FRENCH.—Houdans, Creves-Cour, &c.—1, Mrs. H. Revill. 2, L. Booth. 3, G. Foster. SPANISH.—Andalusians, Minorcas, &c.—1, J. Watson. 2, J. F. Herrieh. 3, T. S. Sultans.—1 and 2, E. J. Eyles. 3, Rev. J. P. Wright. 3, T. Whitehead. BANTAMS.—Game.—1, S. Beighton. 2, Bros. Cooper. 3, T. H. & A. Stretch. *Hen*. A. E. Ward. Any other variety except Game.—1, T. Watchorn. 2, E. C. Wallace. 3, W. D. Osceit. *Hen*. J. Wall. ANY OTHER VARIETY.—1, Mrs. T. W. Fletcher. 2, J. Pickup. *Jun*. 3, Miss M. Whitehead. *Hen*. A. Fletcher. SELLING CLASSES.—Dorkings, Cochins, and Brahmans.—1, Mrs. H. Radford. 2, W. P. Nock. 3, B. Smith. *Hen*. S. T. Vernon. Any other variety.—1, T. Charvill. 2, J. S. Watson. 3, Barnesby & Heath. 3, W. Thorne.

PIGEONS.—CARRIERS.—1 and 2, J. H. Smith. 3, H. Yardley. *Hen*. T. H. and A. Stretch. POUTERS.—1, J. C. Waterhouse. 2, J. Hawkins. 3, T. H. and A. Stretch. *Hen*. T. Shaw. DRAGONS.—Blue or Silver.—1, 2, and 3, R. Woods. 3, A. McKenzie. Red or Yellow.—1, A. McKenzie. 2, 3, and 4, R. Woods. Any other variety.—1, 2, and 3, R. Wood. 3, G. Cowlishaw. BARBS.—1, Withheld. 2, R. Woods. 3, H. Yardley. TUMBLERS.—Almond.—1 and 2, M. & A. Weston. 2, H. Yardley. *Hen*. J. C. Waterhouse. Any other variety of Short-faced.—1, H. Yardley. 2, 3, and 4, M. & A. Weston. Long-faced Clean-legged.—1, 2, 3, and 4, R. Woods. 2, J. C. Bott. Long-faced Feather-legged.—1 and 2, H. Yardley. 3, J. Darby. FANTAILS.—1, W. Green. 2 and 3, J. F. Loveridge. 3, J. H. Smith. TURBITS.—Blue or Silver.—1, 2, and 3, R. Woods. 3, T. H. and A. Stretch. Any other colour.—1, 2, and 3, R. Woods. 2, Taylor and Harker. OWLS.—English.—1, H. Parker. 2, T. H. & A. Stretch. 3, R. Woods. *Hen*. J. C. Waterhouse. Foreign.—1 and 3, R. Woods. 2, J. Hawkins. *Hen*. H. Yardley. ANTWERPS.—Short-faced.—1, 2, 3, W. Moseley. *Hen*. H. Yardley. *Hen*. T. S. Kemp. Long-faced.—1, J. C. Waterhouse. 2 and 3, C. F. Herrieh. *Hen*. S. Wade. ANY OTHER VARIETY.—1 and 3, J. C. Waterhouse. 2, H. Yardley. *Hen*. R. Woods. SELLING CLASS.—1, J. C. Waterhouse. 2 and 3, R. Woods. *Hen*. T. S. Kemp. LOCAL CLASS.—1, 2, and 3, M. & A. Weston. *Hen*. R. Adams.

CAGE BIRDS (LOCAL DEPARTMENT).—BELGIANS.—1, S. Bunting. NORWICH.—Clear Yellow.—1, W. Ashley. 2, H. Watson. 3, J. Lowe. *Hen*. H. Ball. Clear Buff.—1, W. Ashley. 2, E. Fox. 3, H. Watson. *Hen*. C. Dakin. Lightly-marked Yellow.—1, H. Watson. 2, W. Ashley. 3, J. Lowe. *Hen*. H. Ingham. Lightly-marked Buff.—1, W. Ashley. 2, H. Watson. 3, J. Lowe. *Hen*. H. Ingham. Evenly-marked Yellow.—1, C. H. Legge. Evenly-marked Buff.—1, S. Bunting. 2, W. Ashley. 3, E. Merrin. *Hen*. J. Lowe. Heavily-marked Yellow.—1 and 3, J. Bexson. 2, C. Dakin. *Hen*. W. Ashley. Heavily-marked Buff.—1, H. Watson. 2, J. Lowe. 3, W. Ashley. *Hen*. E. Merrin. Clear or Lightly-marked Yellow, not Cayenne-fed.—1, J. Lowe. 2, J. Bexson. Clear or Lightly-marked Buff, not Cayenne-fed.—1, E. Ward. 2, J. Bexson. 3, H. Legge. *Hen*. J. Lowe. Green Jouque.—1, W. Ashley. 2, H. Watson. 3, C. H. Legge. Green Beady.—1, W. Ashley. 2, C. Dakin. 3, J. Lowe. Evenly-marked Crested Buff.—1, J. & C. Torr. 2, C. H. Legge. Evenly-marked Crested Buff.—1, H. Watson. 2, W. Ashley. 3, J. & C. Torr. *Hen*. C. H. Legge. Unevenly-marked and Variegated Crested Buff.—1, H. Watson. 2, C. Dakin. 3, J. Bexson. Crested, Clear Body.—1, J. & C. Torr. 2, W. Ashley. 3, H. Watson. *Hen*. C. Dakin. LANCASHIRE COPPY.—Yellow.—1, W. Ashley. Buff.—1, W.

Ashley. LIZARD.—Golden-spangled.—1, W. Ashley. 2, W. Scanlan. 3, S. Bunting. *Hen*. W. Woodard. Silver-spangled.—1, S. Bunting. 2, W. Scanlan. 3, C. Dakin. *Hen*. C. Legge. Golden-spangled, Broken Cap.—1, W. Ashley. 2, W. Scanlan. 3, S. Bunting. Silver-spangled Broken Cap.—1, W. Ashley. 2, W. Scanlan. 3, C. Dakin. *Hen*. S. Bunting. CINNAMON.—Self Jouque.—1, W. Ashley. 2, H. Ball. 3, J. Lowe. *Hen*. W. Woodard. Self Mealy.—1, W. Ashley. 2, H. Ball. 3, E. Fox. *Hen*. J. Bexson. Variegated Jouque.—1, J. Bexson. Variegated Mealy.—1, J. Bexson. 2, S. Bunting. MULES.—Dark Jouque Gold-finch.—1 and 2, J. Bexson. 3, S. Bunting. Dark Mealy Gold-finch.—1, J. Bexson. 2, W. Ashley. 3, H. Watson. *Hen*. S. Bunting. Light Jouque or Mealy Gold-finch.—1, S. Bunting. Any other variety.—1, J. Bryan. 2, E. Ward. 3, J. Bexson. The Special Prizes for most points were awarded to W. Ashley, H. Watson, John Bexson, S. Bunting, C. Legge, Joseph Bexson, W. Woodard, and E. Ward.

CAGE BIRDS (ALL-ENGLAND DEPARTMENT).—NORWICH.—Clear or Ticked Yellow.—1, C. J. Salt. 2 and 3, W. Pratt. *Hen*. G. Taylor. Clear or Ticked Buff.—1, W. Pratt. 2, J. C. Cleminson. 3, C. J. Salt. *Hen*. G. Taylor. Evenly-marked or Variegated Yellow.—1 and 2, C. J. Salt. Evenly-marked or Variegated Buff.—1, and 2, C. J. Salt. 3, C. Hampton. *Hen*. G. Smithurst. CINNAMON.—Jouque.—1 and 2, C. J. Salt. 3, C. Hampton. Mealy.—1 and 2, C. J. Salt. 3, G. E. Russell. LIZARDS.—Golden-spangled, Clear or Broken Cap.—1, T. Cleminson. 2, S. Bunting. 3 and 4, J. Cleminson. Silver-spangled, Clear or Broken Cap.—1 and 3, T. Cleminson. 2, S. Bunting. *Hen*. J. Cleminson. NORWICH.—Crested Yellow.—1, S. J. Orme. 2, C. J. Salt. 3, W. Greaves. *Hen*. W. Clark. Crested Buff.—1, C. J. Salt. 2, F. Knaggs. 3, W. Clark. *Hen*. H. Watson. GOLDFINCH MULES.—1, C. J. Salt. 2, G. E. Russell. 3, T. Bealey. *Hen*. C. H. Legge. SELLING CLASS.—1 and 2, W. Pratt. 3, T. Cleminson. *Hen*. C. J. Salt. GOLDFINCH.—1, C. H. Legge. 2, Mrs. A. Utton. 3, H. Watson. *Hen*. J. Dowus. LINNET.—Brown.—1, S. Bunting. 2, T. Nettleship. 3, H. Watson. *Hen*. W. Holmes. ANY OTHER VARIETY OF BRITISH BIRDS.—1, T. Newbold. 2, R. Adams. 3, Mrs. J. Fogg. *Hen*. W. Burniston. PARROTS, OR ANY VARIETY OF LARGE FOREIGN BIRDS.—1, 2, and 3, J. A. Barrs. *Hen*. J. Kington. ANY VARIETY OF SMALL FOREIGN BIRDS.—1 and 3, J. A. Barrs. 2 and 4, W. Bunting.

RABBITS.—LOP-EARED.—1 and 3, C. E. Thompson. 2, H. Ball. *Hen*. T. C. Bails. ANY OTHER VARIETY.—1, E. Robinson. 2 and Special, W. H. Horner. 3 and 4, E. Pepper. SELLING CLASS.—1, E. Pepper. 2, A. Trussell. 3, O. Andrews. *Hen*. H. Ball.

JUDGES.—Poultry: Mr. E. Hewitt, Birmingham. Pigeons: Mr. Hawley, Bradford. Cage Birds: Mr. E. Bemrose, Derby; Mr. G. Cox, Northampton. Rabbits: Mr. G. A. Crewe, Etwell, Derby.

DUNDEE POULTRY SHOW.

THE first Exhibition of the Dundee Dog and Poultry Society was held on the 8th and 9th inst., and six hundred pens of poultry came forward. It is six years since a poultry show was held here, but as it resulted in a heavy loss the experiment was not repeated. The uniting of the canine and feathered tribes in one exhibition seemed to draw an immense number of visitors on this occasion, and we expect the result will be a financial success, and that the Exhibition will be an annual one in future.

The poultry opened with *Scotch Greys*. In cocks first to a capital Coloured one, his sickles not full grown. Hens very good, especially the prizewinners. *Dorkings*.—First a very good coloured cock, second and third Silver-Greys; both promising birds. Pen 26 (Admiral Dougall) a good Silver-Grey, but still in moult. Hens.—First and second Coloured, and third Silver-Grey. *Brahmas*.—The winners all good, third being light, the others dark. Pen 60 (Duncan) a good one. Hens.—The judging here not so satisfactory; first a hen of small size, dark, as was second; third light. Pens 71 (Dempster) and 73 (Sandeman) might have changed places with some of the winners. *Cochins*.—Only five cocks entered. First Buff, second Partridge, third White; all good. In hens the winners all Buff; 96 (Davidson), as good as any, even allowing for her faint colour. *Game*.—Black Red cocks a large class of twenty-six, the competition very keen, the winner turning up in a Forfar bird. Brown Red cocks fewer in number, the winner also from Forfar. Black or Brown Red hens.—The winner a stylish Brown Red from Carlisle, second same colour, third Black Red, both from Forfar, where there are many breeders of Game fowls. Other Game cocks.—First and second grand Piles, still from Forfar; third a good Coloured Duckling from Fife. Hens.—First a Pile, second a good Duckling. Game fowls numbered nearly a hundred pens. *Game Bantams*.—The awards were not posted when we made our notes, so cannot criticise them. Other Bantams.—First and second to Silver-laced, the latter dull in lacing; third Blacks. Silver-laced seem to be putting the Golds out, which is a mistake, as both are equally pretty. Not a pen of Golds in the Show. *Hamburgs* (Spangled cocks).—First an easy win, a splendid Silver cock; second a Golden. Many of the Golds too dark for show. Hens.—Silver first, Gold second; both very good. Pencilled cocks.—Winners all Golden. Hens.—First and third Golden, and being entered cheap were soon claimed; second Silver. *Spanish* only six pens, but first very first-rate. *Leghorns*.—A capital White with fine pure earlobes won; second, White; and third Brown. In the hens the winners were respectively of the same colours. Many were very small, and we think the breed is not gaining ground in Scotland. Any other variety.—All Polands, except a pen of small Sultans. Very good Gold Polands first. Four classes for Dorkings, Cochins, Brahmans, and Any other variety, cockerel and pullet in each pen, brought nearly one hundred entries, and paid prizes twice over in entry fees. In *Turkeys*, *Geese*, and *Ducks* the exhibits were about as usual.

POULTRY.—SCOTCH GREY.—Cock.—1, T. Fullerton. 2, Clarkson & Hamilton. 3, A. Reid. *Hen*—1, Mrs. J. A. Dawson. 2, Clarkson & Hamilton. 3, A. Reid. DORKINGS.—Cock.—1 and Cup, J. Turnbull. 2, T. Williamson. 3, D. Laird. *Hen*. J. Smart. *Hen*—1, G. S. Robb. 2, J. Anderson. 3, T. Williamson. *Hen*. Admiral M. Dougall. BRAHMAS.—Cock.—1, Cup, and 3, D. J. T. Gray. 2, Lonie & Sheret. *Hen*—1 and Cup, J. Sandeman. 2, H. Wilson. 3, W. Mitchell. COCHIN-CHINA.—Cock.—1 and 3, Mrs. W. Steven. 2, Miss E. Russell.

Hen—1, Cup, and Cup for best bird in Show, J. Wyse. 2 and *vhc*, A. Dry-rough. 3, Mrs. W. Steven. *GAME—Black Red—Cock*—1 and Cup, C. Jamieson. 2, J. Richard. 3, D. W. Dacres. *Brown Red—Cock*—1, J. M. Beth. 2 and 3, W. Webster. *Black or Brown Red—Hens*—1, J. Brough. 2, J. M. Beth. 3, A. & D. Reid. *vhc*, C. Jamieson. *Any other variety—Cock*—1, Dall & Pygott. 2, D. & C. Blair. 3, J. Hall. *vhc*, C. Kinner, jun. *Hen*—1, Forbes & Petrie. 2, Gray & Stephen. 3, D. Addie. *vhc*, J. Black, A. Catto, J. Patullo. *GAME BANTAMS—Black or Brown Red—Cock*—1 and Cup, Duncan & Kennedy. 2, D. Laing. 3, T. H. & A. Stretch. *vhc*, W. Milne, D. Laing. *Hen*—1, W. Horne. 2, R. Brownlie. 3, W. Foster. *Any other variety—Cock*—1, R. Brownlie. 2, J. R. Kilgour. 3, J. Summers. *Hen*—1, J. Dargie, jun. 2, J. D. Donald, jun. 3, P. McLean. *BANTAMS—Any other variety*—1, W. B. Turnbull. 2, J. A. Dempster. 3, W. Webster. *vhc*, Miss R. C. Frew. *HAMBURGS—Gold or Silver-spangled—Cock*—1, J. M. Campbell. 2, T. Tweedy. 3, J. Gilmour. *vhc*, W. Chalmers. *Hen*—1, J. M. Campbell. 2, J. Roberts. 3, J. & R. Ogg. *Gold or Silver-pencilled—Cock*—1 and Cup, W. Barnes. 2, J. Brand. 3, G. Anderson. *vhc*, W. Barbour. *Hen*—1 and 2, D. Ruthven. 3, W. Barbour. *vhc*, J. Brand. *Cock*—1, A. Williamson, jun. 2 and 3, T. Gilroy. *SPANISH—MI-NORCA AND ANDALUSIAN*—1, J. Norval. 2, J. Wishart. 3, J. Mill. *LEG-HORN—Cock*—1, Mrs. Spence. 2, Dr. A. R. Ritchie. 3, J. Masterton. *Hen*—1 and 2, J. Masterton. 3, Dr. A. R. Ritchie. *FRENCH FOWLS—1 and Cup, J. Masterton. 2, Mrs. W. Davidson. 3, J. M. Stanger. ANY OTHER VARIETY EXCEPT BANTAMS*—1, J. Taylor. 2, S. W. Wildham. 3, D. Marr. *SELLING CLASS*—*Cock*—1, J. & C. Sneddon. 2, R. Topsis. 3, J. Banks. *vhc*, Admiral M. Dougall. *Hen*—1, J. Wyse. 2, J. Masterton. 3 and *vhc*, J. D. T. Gray. *CHICKENS—Dorkings*—1, W. Snowie. 2, J. Rutherford. 3, D. Sime. *vhc*, J. T. Cathcart, Mrs. J. Sinclair. *Cochins*—1, Cup, and Cup for best pair in Show, Mrs. W. Steven. 2, J. Wyse. 3, T. Fullarton. *vhc*, J. O. Rice, Mrs. A. Lee. *Brahmas*—1, W. Sandeman. 2, Miss E. Russell. 3, J. & W. Birch. *vhc*, J. Thomson, W. Mitchell. *Any other variety*—1, J. Thomson. 2, W. Webster. 3, W. Henderson. *Game*—1, J. & W. Birch. 2, Mrs. H. M. Alexander. 3, J. Menzies. *DUCKS—Rouen*—1, J. Adam. 2, H. B. Marshall. 3, Admiral M. Dougall. *Aylesbury*—1 and Cup, Mrs. T. Lawson. 2, A. Mitchell. 3, J. Adam. *vhc*, J. J. Gunn. *Any other variety*—1, Mrs. A. G. Duncan. 2, Master C. L. Ralston. 3, J. Taylor.

Mr. J. H. Smith judged the Game and Game Bantams, and Mr. Raines of Stirling the rest.

CAMBRIDGESHIRE ORNITHOLOGICAL SOCIETY'S SHOW OF POULTRY, &c.

THE Society's Show of Poultry, Pigeons, Cage Birds, and Rabbits was held in the new Corn Exchange on November 6th and 7th, when the following prizes were awarded:—

POULTRY—DORKINGS—1, R. F. Smythe. 2, G. Wallis. 3, W. Griffin. *GAME—Black or Brown Red*—1, J. Gardner. *COCHINS—CHINA*—1, H. J. Gunnell. 2, W. Mansour. *BRAHMA POOTRAS*—1, J. Long. *HAMBURGHS—Golden or Silver-pencilled*—1, J. Lincoln. 2, J. T. Hodson. 3, J. Long. *Any other variety*—1, A. W. Darley. 2, J. Long. 3, W. J. Bretherton. *BANTAMS—Game*—1, J. Long. 2, J. C. Meggitt. 3, W. Goodbody. *Any other variety*—1, C. A. Jones. 2, A. Morgan. 3, Rev. F. Tearle. *FRENCH—1 and Special*, A. W. Darley. 2, J. Rivett. *ANY OTHER VARIETY*—1, G. W. Boothby. 2, J. Long. 3, F. J. R. Nunn. *CHICKENS—Dorkings, Cochins, or Brahma Pootras*—1, G. B. C. Breese. 2, J. Saxton. 3, Mrs. Staples-Browne. *Any other variety*—1, A. W. Darley. 2, D. M. Mills. 3, G. Gilbert. *DUCKS—Rouen or Aylesbury*—1, C. Rodwell. 2, H. J. Gunnell. *Any other variety*—1, E. Matthews. 2, J. Long. *SELLING CLASSES—Cock and Hen*—1, H. Browne. 2, H. J. Gunnell. 3, G. P. Pointer. *Drake and Duck*—1, F. J. R. Nunn. 2, H. J. Gunnell. 3, J. Long.

PIGEONS—CARRIERS—Cock—1, J. Long. 2, J. Lightfoot. 3, G. Smith. *Hen*—1, F. W. Metcalfe. 2, G. Smith. 3, C. S. Palmer. *POUTERS*—1 and 3, J. Lightfoot. 2 and *vhc*, J. Dyer. *DRAGONS—Cock*—1, Hon. W. Sugden. 2, J. Atkins. 3, W. Fountain. *Hen*—1, 2, and 3, Hon. W. Sugden. *Young*—1, J. Lightfoot. 2, W. Bell. 3, Hon. W. Sugden. *TCMBLES—Short-faced*—1 and 2, J. M. Braid. 3, J. Dyer. *Flying*—1 and 3, J. Barnes. 2, J. M. Braid. *JACO-BINS*—1, A. E. Good. 2, Hon. W. Sugden. 3, J. F. Loversidge. *TURBITS OR OWLS*—1, W. Douglas. 2, F. W. Metcalfe. 3, G. Webster. *ATBERPS—Short-faced*—1, A. Turner. 2 and 3, J. Mantel. *Homers*—1, G. Bracher. 2, C. Uttridge. 3, E. Swan. *ANY OTHER VARIETY*—1, J. Long. 2, T. D. Green. 3, F. Ashford. *SELLING CLASS*—1, F. W. Metcalfe. 2, Hon. W. Sugden. 3, F. Ashford.

CAGE BIRDS—BELGIAN—1, Withheld. 2, G. Banes. 3, J. Smith. *NORWICH—Clear Yellow*—1 and 3, J. Yallop. 2, G. Gadd. *vhc*, G. Gadd. J. Smith (3). *Clear Buff*—1, 2, and 3, J. Yallop. *vhc*, E. Arnold. G. Gadd. J. Smith (3). *Stephenson, W. Shilton. Ticked or Variegated*—1, 2, and 3, J. Yallop. *vhc*, E. Arnold. G. Gadd. Howe & Robinson. S. T. Stephenson. J. Yallop. *Crested*—1 and 3, J. Yallop. 2, Howe & Robinson. *Clear Yellow or Buff*, Sir. 2, J. C. Coge—1, J. Yallop. 2 and 3, J. Smith. *LIZARDS—Clear Caps*—1, 2, and 3, J. Smith (2). J. Yallop (2). *Any variety*—1, E. Heady. 2, G. Roper. 3, Withheld. *SELLING CLASS*—1, G. Gadd. 2, 3, Knight & Spencer. *vhc*, Howe and Robinson (2). Knight & Spencer. C. Osborn. W. Shilton. J. Yallop (2). *MULES*—1, J. Yallop. 2, Knight & Spencer. 3, Withheld. *PARROTS*—1, T. Wilkinson. 2, J. Smith. 3, Miss E. Bene. *FOREIGN BIRDS—Any other variety*—1 and 3, J. Smith. 2, E. Arnold. *vhc*, E. Arnold. G. C. Eastwood. *BRITISH BIRDS*—1, J. Smith. 2, J. Baldrey. 3, R. P. Levett. *vhc*, E. Hall, J. Smith.

RABBITS—*LOP*—1, A. Atkinson. 2, W. Dambrock. 3, J. Taylor. *vhc*, J. Shepherd. *SILVER-GREY—Buck*—1, A. H. Duck. 2, R. B. Newsom. 3, H. Kirby. *vhc*, M. Pitt. *Do*—1, A. H. Duck. 2, J. W. Prescott. 3, F. J. R. Nunn. *vhc*, J. Day. *SILVER-CREAM*—1 and 2, Rolls & Hill. 3, F. J. R. Nunn. *HIMALAYAN*—1, Mrs. Staples-Browne. 2, W. H. & G. A. Gilbert. 3, R. B. Newsom. *vhc*, E. Bunney. *DUTCH—Black or Blue*—1, Rolls & Hill. 2, F. J. R. Nunn. 3, J. E. Winspear. *vhc*, Glover & Rye. *Any other variety*—1, F. J. R. Nunn. 2, E. Gascoyne. 3, W. Andrews. *vhc*, J. Cave. *BELGIAN HARE*—1 and *vhc*, Dr. E. Gascoyne. 2, E. Robinson. 3, M. H. Sturt. *ANGORA*—1, J. Taylor. 2, Rolls and Hill. 3, H. Cragg. *vhc*, J. Martin. *SELLING CLASSES—Price not to exceed 20s.*—1, F. J. R. Nunn. 2, T. Neale. 3, A. Atkinson. *vhc*, W. Sargent. *Price not to exceed 10s.*—1, W. Dambrock. 2, A. Atkinson. 3, J. A. Farmer. *vhc*, Glover & Rye. S. Sandley. E. Robinson.

JUDGES—Poultry and Pigeons: Mr. W. B. Tegetmeier. *Cage Birds:* Mr. W. A. Blakston. *Rabbits:* Mr. G. Johnson.

VARIETIES.

WE regret to hear that Mr. King, the Secretary of the Oxford Show since its foundation, will resign before another year. The poultry-fancying public is greatly indebted to him for the untiring energy which for seven years he has bestowed on the organisation of this now first-rate Show.

— A MEETING of fanciers has been held in Shrewsbury to

discuss the advisability of holding a poultry show there. It was decided that one on a large scale with a liberal prize list should be held on January 2nd and 3rd. The show will in all probability be under the Poultry Club rules, and with such enthusiastic and practical fanciers as the Rev. W. Serjeantson and Mr. A. Darby on the committee ought to be a great success.

— IN Mr. Bennett's letter (page 360) on the fertile worker the drones are said to have emerged after the "seventy-first day," instead of "twenty-one days" after the eggs were first noticed.

— "A PERTSHIRE BEE-KEEPER" writes:—"I have read with considerable interest the contributions of Mr. Pettigrew and the 'RENFREWSHIRE BEE-KEEPER' in your Journal, and am of opinion that thanks are due to the latter for his criticism of Mr. Pettigrew's mistakes in regard to the Stewarton boxes and system of management. Mr. Pettigrew seems to me like a man who is angry and consequently imagines that his opponent has become angry too. All who are personally acquainted with the 'RENFREWSHIRE BEE-KEEPER' know that he is rather good-natured and amiable than otherwise, and if Mr. Pettigrew carries out his intention to visit him I am persuaded he will receive a most hearty and kindly welcome, whether he is able to fulfil his offer to produce 'crude honey' or not."

— "A RENFREWSHIRE BEE-KEEPER" sends us the following note on an indication of a severe winter.—"Calling on an apiarian friend this week, resident in our county, I was struck at the extent to which propolis barricades were built at the entrances of his stocks of bees—a sure indication of a severe winter. Last autumn no such erections were raised. A mild winter followed. Our little favourites thereby showing their instinct in forecasting the weather."

TAKING HONEY AND WAX.

THE taking of both honey and wax is a most unpleasant and disagreeable operation. There is nothing in apiculture that I shrink from but the running of honey and wax from combs. Taking the honey from combs by any known process is unpleasant work, and melting the combs into wax is more unpleasant still. I therefore heartily sympathise with a correspondent, "C. R. S.," who says that he and many besides would be glad to have some hints on the best methods of taking honey and wax. Your correspondent has "the combs of forty hives and supers all clean and free from dead bees and grubs, but dreads the mess of boiling."

For forty years I have been wishful to find an easy way of doing this unpleasant work, and often have we suggested the desirability of inventing an instrument to press the honey from the combs. Instruments have been produced, but not one of them has been satisfactory. The American slinger answers for taking clover honey from combs in bar-frames, but it cannot sling heather honey from combs. But the process of taking honey by the slinger is disagreeable. The combs have to be handled and the lids shaved off the sealed combs before they are placed in the instrument, which casts out and mixes crude and perfect honey. For casting honey out of old tough combs it is in our opinion the best instrument yet invented. I can say neither more nor less in favour of the American slinger.

For us who keep straw hives and take therefrom run honey by the hundredweight, there has appeared no instrument equal to human hands. It is, as everybody knows, unpleasant work, but we make the best of it, and get it done as speedily as possible. By hand pressure we can take 50 lbs. of honey from combs in an hour or thereabouts. As soon as the bees are driven from their combs the hives are carried to a hothouse or near the kitchen fire, and there the cross sticks are withdrawn, the combs carefully taken out and divided. All the best honeycombs are placed in a milk pan, the second best placed in another milk pan, and the empty and brood combs are placed in a third pan or empty bee hive. All this is but the work of a few minutes; and before the combs have time to cool or lose their natural heat we seat ourselves beside the best combs and press the honey from them. But let it be understood that there is a right and wrong way of doing this work. First, one comb is lifted and broken into pieces about the size of a woman's hand. One by one these pieces are placed on edge between the fingers and thumbs of both hands, so that the pressure comes on the sides of the cells, causing the honey to flow rapidly into the pan. These pieces of comb are turned and doubled in the hand, if need be, for more pressure. Thus they become dry and hard, and are cast amongst the empty brood-combs. After all the combs are thus gone over and squeezed the honey is run through a bag of cheesecloth or strainer into a honey jar, and skimmed next day. Thus we have honey without a stain or speck of impurity.

The second pan with inferior combs—combs containing both honey and pollen—are treated in the same way, but with far more care and less pressure. The difficulty here is to keep the pollen from tainting the honey. Many cells half full of pollen are filled to their tops with honey, and many honey cells are found amongst pollen cells. We almost always succeed in taking the honey from

such cells without letting the taint or taste of pollen pass into the honey; and rather than risk danger in this direction we put aside the pollen combs with honey in them for feeding purposes. For quality we sacrifice quantity; and by this method of pressure we obtain more honey and better quality than is had by the cottager's plan of breaking all the combs with a knife and draining the honey through a cheesecloth, because the knife breaks the pollen, and this taints the honey. I hope that someone will invent a simple instrument to press the honey out instead of the hands. My inventive powers are but feeble, but I can see that two perforated boards fixed about 2 or 3 inches apart to receive honeycombs edgewise, with some lever like a pump handle to come down between them, would be much better in every way, and do four times more work than human hands. Before I leave the process of honey-taking let me ask the reader to bear in mind that the honey should be drained from combs in their natural heat, and that, if allowed to cool, the honey does not run so well. It is rather difficult to impart artificial heat to honeycombs. In doing this before a fire the combs are apt to melt.

I do not know how foreign honey is taken from combs, but much of what comes to England is well and cleanly taken. I have seen barrels of pure Chilean honey on sale in Manchester without any impurity or taint whatever.

The lady at our house is wonderfully clever in the work of melting wax. All the loose, empty, offal combs are closely pressed together in big lumps and cast into a large bag of cheesecloth. When this bag is full its mouth is closely tied and cast into a copper or boiler of clean water. When it boils, the wax—a beautiful yellow oil—swims on the top. This oil is skimmed off and run through a strainer or muslin cloth into a pan with some clean cold water in it. When all the oil is thus skimmed off, the copper is emptied and washed. The wax is boiled a second time in clean water and put through the strainer. This finishes the work of wax-melting. The wax should not be cooled rapidly, otherwise the cakes would crack on their surface. As wax is very inflammable, containing as it does more than 80 per cent. of carbon, great care should be used in boiling it not to let it tip over the copper into the fire. As wax sticks to everything it touches, plenty of soda should be used in cleaning dishes, &c., used in making it. Honey is an excellent soap in cold water, but forms a greasy mess in warm water. Nothing but pure cold water should be used in cleaning anything touched by honey.—A. PETTIGREW.

STRAW SKEPS AT THE CRYSTAL PALACE SHOWS.

My attention has been directed to a statement of Mr. Pettigrew's in a late number of the Journal, that straw skeps were refused admission to the Crystal Palace bee shows, which your correspondent "A RENFREWSHIRE BEE-KEEPER" calls upon the Hon. Sec. to refute. As I held that office at both shows I say most emphatically that Mr. Pettigrew is wrong. I do not know whether he means full skeps or empty ones, but referring to the first catalogue I find there were four competitors for a prize for the latter class. Nine prizes were offered and competed for by filled straw supers alone, and twenty-nine prizes open to both wood and straw. So far from admission being refused to straw skeps, the many visitors to the Show must remember that scores of such hives appeared on the tables, and at the second Crystal Palace Show they were also well represented. I can hardly understand how Mr. Pettigrew could make this mistake, seeing that I myself sent him the prize schedules and invited him to judge the exhibits.

I have also another grievance against Mr. Pettigrew. In the Journal, November 7th, in explaining the wrong measurements he had given of the Stewarton hive, he says he quoted from the description of the hive in my book, "A Manual of Bee-keeping." Rather astonished I refer to the book and find the true dimensions, 14 inches diameter, are there given, and not 15 inches as Mr. Pettigrew has stated. Surely Mr. Pettigrew should be a little more particular before shifting his own blunders on to my shoulders.—JOHN HUNTER, *Eaton Rise, Ealing.*

UNPRODUCTIVE EGGS.

THE fact that a correspondent of this Journal saw some eggs in combs which did not become brood or hatch into bees, does not in our opinion prove that they were blind or incapable of yielding bees. The eggs of a queen bee are unlike the unfertilised eggs of birds, which cannot be quickened into life. There are no blind eggs in a bee hive. With proper treatment they are productive. A fertilised queen lays both male and female eggs; an unfertilised queen produces male eggs only, and very few of them comparatively. These things are well known by our respected correspondent. It is believed that the female eggs only are fertilised in the body of the queen, and that the male eggs of a fertilised queen bee escape unfertilised. Though there are difficulties and mysteries surrounding the manner or question of egg-fertilisation, almost all advanced apiarists accept the theory as well established.

As to the eggs seen in the combs which did not produce bees,

there does not appear to be any difficulty in accounting for the fact if we admit that working bees have both the will and the power to remove eggs and destroy them when they do not want brood, and this destruction of eggs or prevention of brood-rearing is of very common occurrence. Egg-laying, or the production of eggs in queen bees, is involuntary so far as she is concerned. A queen can neither form nor hinder the formation of eggs, and when they are formed she cannot retain them. But the working bees can determine whether the eggs shall or shall not be quickened into life—whether they shall or shall not become perfect bees. Very often in the middle of summer, when queens are laying perhaps two thousand eggs a day, have we known the bees decline to set them, but hatched out the brood that was somewhat advanced. In times of unfavourable weather setting in, threatening the whole community with poverty and starvation, the bees wisely or instinctively decline to set eggs. We have known young swarms after building a few combs, and by reason of unfavourable weather were hindered from building more or gathering honey, decline to set eggs, and left their hives and combs, and went off as "hunger swarms" without an egg or speck of honey in them. In autumn, in the face of winter, bees are naturally disinclined to engage in the work of brood-rearing, but on being vigorously fed and kept warm this disinclination is removed to a certain extent and breeding recommences—not always, but oftentimes.—A. PETTIGREW.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.					
	Baromet. ter at Sea Level.	Hygrometer.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
1878.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
Nov.										
We. 6	29.565	39.7	35.6	N.W.	42.0	44.8	34.8	87.0	30.2	—
Th. 7	30.710	39.8	37.3	N.W.	41.9	47.0	35.3	82.3	31.5	0.011
Fri. 8	29.443	43.8	42.5	S.	41.3	45.7	33.2	65.2	27.7	0.148
Sat. 9	30.133	35.5	33.4	N.W.	41.0	44.7	32.2	73.8	27.4	0.363
Sun. 10	29.488	50.0	49.0	S.	41.2	51.4	35.1	51.8	34.4	0.413
Mo. 11	29.408	41.0	39.5	N.W.	42.2	44.9	37.1	73.9	32.5	0.011
Tu. 12	29.425	33.4	32.0	W.	41.0	41.3	31.3	66.3	28.1	—
Means	29.609	40.5	38.5		41.5	45.7	34.1	71.8	30.3	0.946

REMARKS.

- 6th.—Little snow in morning; clear fine bright day; beautiful moonlight evening.
7th.—Windy in morning, but very clear sky; fine day throughout with bright sunshine; little misty towards evening; moonlight night.
8th.—Wet morning, hail shower 10.5 A.M., brighter with intervals of sunshine in middle of day; cold shower in afternoon; squall with heavy rain at 4.5 P.M.; high wind and rain in evening.
9th.—Clear frosty morning; very fine bright day; moonlight night.
10th.—Very squally with rain during the night; wet morning at 2.45 P.M., great squall of wind, with rain and sleet, windy and wet all day; at 9.30 P.M. fine and moonlight.
11th.—Clear bright morning, short shower of small hail at 1.35 P.M.; fine afternoon; showery in evening.
12th.—Clear fine morning; solar halo 2 P.M.; after 3 P.M. dull and rather misty; damp and cold evening.
Not quite so cold as last week, but still cool for the season.—G. J. SIMONS.

COVENT GARDEN MARKET.—NOVEMBER 13.

We have no alteration to quote from last week.

FRUIT.

		s.	d.	s.	d.			s.	d.	s.	d.
Apples.....	1 sieve	1	6	4	0	Melons.....	each	1	0	4	0
Apricots.....	dozen	0	0	0	0	Nectarines.....	dozen	0	0	0	0
Cherries.....	bushel	0	0	0	0	Oranges.....	per 100	8	0	16	0
Figs.....	dozen	0	0	0	0	Peaches.....	dozen	0	0	0	0
Filberts.....	per lb.	0	8	1	0	Pears, kitchen..	dozen	0	0	0	0
Cobs.....	per lb.	0	8	1	0	dessert.....	dozen	3	0	6	0
Grapes, hothouse	per lb.	0	9	6	0	Pine Apples....	per lb.	2	0	4	0
Lemons.....	per 100	6	0	16	0	Walnuts.....	bushel	5	0	8	0

VEGETABLES.

		s.	d.	s.	d.			s.	d.	s.	d.
Artichokes.....	dozen	2	0	4	0	Mushrooms....	pottle	1	6	to 2	0
Asparagus.....	bundle	0	0	0	0	Mustard & Cress	punnet	0	2	4	0
Beans, Kidney ..	per lb	0	3	0	6	Onions.....	bushel	2	6	3	0
Beet, Red.....	dozen	1	6	3	0	Pickling.....	quart	0	4	0	6
Broccoli.....	bundle	0	9	1	6	Parsley.... doz.	bunches	2	0	0	0
Brussels Sprouts	1 sieve	3	0	4	6	Parsnips.....	dozen	0	0	0	6
Cabbage.....	dozen	1	0	2	0	Peas.....	quart	0	0	0	0
Carrots.....	bunch	0	4	0	8	Potatoes.....	bushel	3	6	4	0
Capsicums.....	per 100	1	6	2	0	Kidney.....	bushel	4	0	5	0
Calliflowers....	dozen	3	0	0	0	Radishes.... doz.	bunches	1	0	1	6
Celery.....	bundle	1	6	2	0	Rhubarb.....	bundle	0	0	0	0
Colicworts.... doz.	bunches	2	0	4	0	Salsaby.....	bundle	0	9	1	6
Cucumbers.....	each	0	4	1	0	Scorzoner.....	bundle	1	0	0	0
Endive.....	dozen	1	0	2	0	Seakale.....	basket	2	6	3	0
Fennel.....	bunch	0	3	0	0	Shallots.....	per lb	0	3	0	6
Garlic.....	per lb.	0	6	0	0	Spinach.....	bushel	2	6	4	0
Herbs.....	bunch	0	2	0	0	Turnips.....	bunch	0	2	0	6
Leeks.....	bunch	0	2	0	4	Veg. Marrows..	each	0	2	0	6

WEEKLY CALENDAR.

Day of Month	Day of Week	NOVEMBER 21—27, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.	Days.	m.	s.		
21	TH	Kingston Show. Royal Society at 8.30 P.M.	49.6	36.2	42.9	7	30	4	2	3	36	1	59	27	13	58	325	
22	F		49.2	34.7	41.9	7	32	4	0	5	6	2	20	28	13	42	526	
23	S	Royal Botanic Society at 3.45 P.M.	47.6	34.2	40.9	7	34	3	59	6	38	2	48	29	13	26	327	
24	SUN	23 SUNDAY AFTER TRINITY.	49.4	31.7	39.5	7	35	3	58	8	6	3	27	●	13	8	328	
25	M	Royal Geographical Society at 8.30 P.M.	46.4	33.7	40.0	7	37	3	57	9	24	4	21	1	12	50	329	
26	TU		47.2	32.0	40.0	7	39	3	56	10	23	5	29	2	12	31	330	
27	W	Society of Arts at 8 P.M.	47.0	33.6	40.3	7	40	3	55	11	6	6	47	3	12	11	331	

From observations taken near London during forty-three years, the average day temperature of the week is 46.5°; and its night temperature 33.8°.

From observations taken near London during forty-three years, the average day temperature of the week is 46.5°; and its night temperature 33.8°.

THE SEASON AND WORK.



FREQUENTLY we find reference made to the season and the crops, but not so frequently to the labour required for producing them. The labour, however, expended in gardens is not by any means limited to producing crops of flowers, fruit, and vegetables, for much time is necessarily occupied in keeping a garden neat, without which it cannot be enjoyable.

Usually the labour provided for the cultivation and keeping of private gardens is fixed in character: that is, a certain number of men are allowed, and to these no addition can be made let the season be what it may. Even in a favourable season it is not often that the labour staff is in excess of the requirements, and generally it is only by some scheming and diligent application that different kinds of work can be done at the right time; and I may add that it is only by doing work at the right time that a garden can be rendered to the fullest extent profitable and pleasurable. If, for example, plants cannot be potted when they require it, seeds sown, crops planted, lawns mown, and weeds destroyed, the gardener works at a great disadvantage, and the condition of the garden under his charge can no more satisfy him than it can the owner of it. But while a gardener knows well the reason of the shortcomings it cannot be expected that an owner can at all times so fully appreciate them: hence as a matter of simple justice to all, to employer as well as employed, I venture to allude to the subject now.

The summer which has just terminated has been emphatically a season of hard work for all engaged in the management of gardens. Where adequate assistance has been afforded it has been a summer of plenty as regards vegetables—plenty, I mean, combined with neatness; but where no extra labour has been provided it has been utterly impossible to keep gardens as clean as usual and at the same time maintaining the necessary supply of floral and culinary products.

Under these circumstances it is not surprising that some dissatisfaction has been expressed by employers, and which in more than one instance, to my knowledge, has resulted in changes of gardeners. Possibly if a clear temperate explanation of the extraordinary nature of the season had been rendered the position would have been so far understood to have reduced the differences considerably, even to the extent of preventing the separation of a generally good man from a generally good master. But gardeners are not always capable of making an intelligible explanation of their position when surrounded by untoward circumstances; and employers, it must also be suggested, are not always in a listening mood. It becomes therefore necessary to discuss the subject in your columns where, as is fully admitted, the disposition is in many ways manifest that the governing principle is justice to all—a desire that masters should be satisfied and men contented.

I am not certain that I am capable of dealing with a subject that is in some degree delicate and complex in a

satisfactory manner; but I can at least approach it without prejudice, seeing that I have not been a sufferer by this work-producing season because extra assistance has been afforded to meet the extra work. I have further endeavoured to procure evidence that the season has really been what is termed an unusually heavy one, for gardeners especially, and cultivators of the soil generally. In order to obtain the best information possible I wrote to two nurserymen, two market gardeners, and two managers of public parks, inquiring if they had found it necessary to incur additional expenditure by increasing their labour staff in accordance with the incidences of the season. In every case the replies were in the affirmative. One of the nurserymen wrote that he had found it imperative to employ twenty-five men in addition to the usual staff to “keep the place in anything like order.” A market gardener replied that two extra men per acre were barely sufficient to “prevent the weeds eating the manure that was purchased for the crops;” and both the park managers assured me that it was only by encouraging all the men to work overtime to the extent of three hours a day that the lawns could be kept decent, grass edges clipped, and walks clean. In the matter of mowing, one of the managers stated that quite double the amount of labour had been necessary that was requisite in an ordinary season, “for,” he observed, “while in some seasons we had only to cut the grass once in ten days or a fortnight, this year we have frequently had to mow the lawns twice a week; the labour account, therefore, must be increased.”

An unusually fine autumn followed the extraordinary work-producing summer, and arrears have in many instances been brought up, but the year will long be remembered by gardeners on account of the extra amount of labour it involved, and even then gardens and grounds could not be kept so neat as desired. It is fair to all, I think, that the evidence I have adduced of the real nature of the season be recorded.—A NORTHERN GARDENER.

HOW I GROW THE CYCLAMEN.

THE Cyclamen has so recently come to the front as an indispensable decorative plant that must be grown in quantity, that many who commence its cultivation are very often unsuccessful, with it though most desirous to succeed. I grow as many as I can find space for, and find it one of the most accommodating plants we have. Seedlings from seed sown in February of the present year are many of them coming freely into flower, some of the most precocious throwing flowers up as early as September. I find it necessary to raise a fresh supply of plants at least every second year, as those more than three years old are of no use for my purposes.

In February at latest we sow our seed. I find one of our Geranium boxes better than pots or small pans for sowing the seed in. The boxes are drained with coal ashes covered with a layer of moss, and then filled with a light but rich compost. The seeds are sprinkled evenly over the surface and merely pressed into the soil; a sheet of brown paper is laid over the surface of the soil for the double

purpose of excluding light and preserving to the seeds uniform moisture. At no stage of growth ought the soil to be dry, but at this, the most critical, attention should be given to keep the germinating seeds always moist. Placed in a temperature of 55° to 65° little time elapses before growth commences. The brown paper will be better dispensed with then, though the attention must not be relaxed. The plants will keep on adding one small leaf after another, the little bulb at the same time steadily increasing in size. By-and-by the plants will require transplanting, but do not be in too great haste over this. Use the same kind of boxes for pricking them off into, also the same kind of soil, only richer, and leave them awhile longer in the same structure. As natural warmth increases transfer them to a cold frame and keep them growing on there until about the middle of September, then pot them into 4-inch pots and keep them in a cool place until established. In the beginning of October transfer them to a structure where the temperature is kept warm enough for their progressing gently through the winter. Each plant will produce on an average two dozen of flowers. I use these as cut flowers, thereby saving larger plants from being in any way damaged in appearance.

About the end of May I have our stock planted out in a warm border in the kitchen garden, keeping the top of the bulbs slightly under the surface of the soil. If there is a necessity to water it is better to mulch the surrounding surfaces than to have to make continued applications of water, which always have a tendency to sour the soil. Until the time of lifting the plants, during the latter part of September, no further attention will be required more than keeping weeds down. The young plants are mostly all potted into 5-inch pots; the older plants, which are managed the same way during summer as these, are placed in pots 5 and 6 inches in diameter. The pots are drained with a few coal ashes, and a thin layer of moss is placed between these and the soil to keep the drainage clear. The soil used is composed of loam, a very slight addition of decayed manure, and a liberal quantity of sand. The soil is pressed firmly round the balls, the top of the bulb being kept on a level with the surface of the soil. The plants are then placed out of doors in a sheltered and shady position for two or three weeks to allow the roots to get hold of the soil, and are then placed in the same winter quarters as formerly. Some of the earliest varieties (they vary considerably in this respect) will be in flower at this season, and if more are wanted they are easily brought into bloom by placing as many as are required in a warmer structure.

With regard to watering, I like the soil kept in a moist condition; numbers of roots are pushed from the corms during winter, and inattention to watering is inimical to these. Where regular watering is neglected the foliage and flowers are apt to damp off at the junction of their stalks with the corm; this tendency is further increased by growing the plants in too low a temperature. By the time the plants are three years old many of the corms are too large for the sizes of the pots we grow them in, consequently there is a weeding-out of these every season after flowering. Those desirous of growing large plants would doubtless find these just at their best for that purpose; but as small decorative plants meet our requirements, as noted at the beginning of this paper, young seedling plants are what we rely on. The foliage, especially in a cut state, is here held in nearly as much estimation as the flowers. To the amateur with little time to spend over his greenhouse I know no other plant so easily grown and capable of giving as good returns during the winter and spring months as the Cyclamen.—R. P. BROTHERSTON, *Tynningham*.

ABOUT VINES.—No. 3.

UNDER the superintendence of Mr. Hunter I planted my first Vines on March 12th, 1876. Those along the front and back wall had their roots carefully spread out, and those along the centre, for supernumeraries, were turned out with the balls unbroken, the better to produce a few bunches that season. I particularly noticed that the latter made the stronger growth, notwithstanding their crop. A few days later I had my accident with the glass. Immediately after the wind we had snow and bad weather, and the men working on the border made it firm, which was undoubtedly beneficial to the Vines.

No fire heat was given until August, and this also I have since looked upon as an advantage. During May and June I was, twice in particular, twitted about the slow progress my Vines were making, and had friendly invitations to have others

planted. My Vines, unaided by fire heat, I grant made slow progress at first, but they have since proved that a slow start was not a disadvantage. By the end of the season they branched out and covered the roof. With the aid of fire heat, for young Vines at the right time, in the autumn I had them sufficiently ripened to carry a fair crop, and it was a day I am still proud of when with the first Grapes I ever grew I took first prize at our Newcastle Show amongst fourteen competitors.

During February this year I planted a second house, but only along the front and middle, as I have made the house half span to enable me to grow Peaches along the back, thus securing the Peaches light. The house is a plain wooden structure with two rows of posts for support, the second row being under the apex or 6 feet from the back. Having proved that the Alicante colours better and has a denser bloom on the back wall than when immediately under the glass, at every fourth post I have planted an Alicante, and I mean, with the exception of necessary openings, to run one rod the whole length about 4 feet 6 inches from the ground, that we may both see over the top from the path and get underneath when necessary. At this height these Vines will be no additional shade to the Peaches. Intending next spring to raise Cauliflower plants largely, as I did this, I do not intend having fire heat until after they are cleared out, then I intend to heat with flue and hot water combined. I have this autumn run a flue through my other house, and that I find is a great advantage. I do not intend to use the flue when starting the Vines, a damper being provided to turn the smoke either to the chimney or to the flue. I have dispensed altogether with early closing since July, the house from that time, as a rule, being open night and day. My canes have done fairly well, six or eight of them being 18 feet long, and I counted in one fifty joints. On the 6th of June I planted out several Vines of my own raising this year, and I see one (Ainwick Seedling) is now 17 feet long with forty-eight joints. They have also branched out in the most robust manner, but during these last six weeks I have taken all the laterals off. In this house the Peaches have ripened off admirably, and have produced clusters of fruit buds, and the bottom leaves of the Vines are now beginning to fall. It may interest some to know somewhat of a freak I played with a Duke of Buccleuch. Being disappointed of a Vine promised, and yet being determined in some form to try to grow this noble Grape, I planted a stunted cane I already had on the 6th of June. I had previously been kind to it, but with little satisfaction. After being planted it continued for a short while to make joints from an inch to 1½ inch long. Having some healthy young canes of Waltham Cross I planted one by its side and inarched it. Some three weeks or so after the Duke gave evidence of fresh life the two had become united, and it has since made a fine fresh growth of rather over 2 feet. When I commenced Vine-growing I had an impression that plenty of liquor of moderate strength was the best treatment. Now my firm conviction is, if you have good turf to grow in the less liquid manure a young Vine has the better. In my second house this season I have watered only with pure water. In my next your readers shall have some account of the trials, disappointments, and perplexities of an amateur.—JOSEPH WITHERSPOON, *Chester-le-Street*.

ROSE OLLA PODRIDA.

OTHER than the election the rosy talk in our Journal has of late been copious as to blooms, with here and there just a suspicion of thorn. With much I have been amused. For instance, we have had suggestions for an election from "ONE OF THE MILLION," endorsed by our friend Mr. Radclyffe, for 1, freest bloomers; 2, hardest; 3, best for bouquets; Mr. Radclyffe adding 4, best for scent; 5, best in bud for button holes. Then comes the privately sent suggestion from "A. C." as to the best Roses for travelling, and then Rev. C. P. Peach's idea for the newer Rose election, but confining the electors to six nurserymen selected by amateurs, and *vice versa*. And in the same number comes my friend Mr. Beachey with his classification. Now to the latter gentleman we owe a most interesting paper as to certain rules for deciding the best Roses for general purposes. This paper was published in the Journal some five years ago; it singled out nine points, I think, in Roses, and each point as highest value had the mark 3. He made out his return by this list, and, tried by this test, Gloire de Dijon, I recollect, came out as his best Rose. For general purposes this is a very good plan, but I ask my valued friend how many returns would he obtain made in this way? In these

high-pressure days men have not the time to devote to them, and the replies would be almost nil. Then if you take one point as suggested by "ONE OF THE MILLION," you would require an election for each separate point, and heartily sick most persons would be of the affair. Elections (Rose) "come but once a year," but unlike Christmas they do not always bring good cheer. Even once a year it occasionally brings snubs and growls; what would it do if I attached so many points as to give each elector an idea that he was in for a competitive examination? Now to our good friend Rev. C. P. Peach's idea. We should have three elections. First we should have an election for the six amateurs and then another for the six nurserymen, and by the time we got to the Roses both the selected would be tired of the whole affair, and the waste-paper basket or the next pipe or cigar being fired would be the end of the voting paper. It really is not so much, What is best to be done? as, How much can you get others to assist you in doing?

For a season or two we can afford to let general exhibition varieties alone, and we may, as I have said, take up the matter in a more restricted form; but before I pass on I would just remark on Class 2 of Mr. Beachey's—"The freest bloomers irrespective of the quality of the blooms." This class, he says, is altogether "cut out in the present election." Now I should say that Gloire de Dijon and Maréchal Niel, and probably Souvenir d'un Ami and with me Pierre Notting, were still in this class—certainly the former. Here I would remark how thoroughly I agree with Rev. C. P. Peach about this Rose. I contend it never has fair play as an exhibition variety, and, like everything else, if it be not cared for the success is doubtful. I heartily endorse every word he says about dear old Gloire—"Glory Die John," as old Tommy Coles of Wellow Rosery used to call it, but it is a Rose that will never die however cold the frosts of exhibition elections: it has too many good sound qualities. Considering how separated Rev. C. P. Peach and I are, and I should imagine different in soil and climate, it surprises me how nearly our experience seems to tally. I have already in the election cast a sort of doubt on Duchesse de Vallombrosa. I greatly fear she will prove to be a fine-weather lady, and I shall not be surprised to see her lower down three years hence. With Mr. Peach, too, I believe Marie Baumann to be the most exquisite Rose there is. On the plant, I prefer the pendant position; and what a thrill of delight comes over one as you lift the glorious bloom and so unfold its beauties to the eye. Grown on the seedling Briar, too, it has with me plenty of vigour, throwing up shoots 3 feet in length and nearly half an inch in diameter.

A different matter on which I again most thoroughly agree with Mr. Peach is the Manetti. I venture to say that if I had time to prepare the cuttings myself not one in a hundred—I had almost written thousand—should send up a so-called sucker—really a bud that has escaped the knife. Only on one or two occasions have I ever had a genuine sucker—that is a growth from the root, and that has been feeble. But then, on the other hand, I have had Manetti stocks from nurserymen, have gone over them before planting—not so easy whilst the stems are dirty, and overlooked buds, and then have had such a forest of Manetti in my bed as to make me give up the idea of budding them altogether; and then people say, naturally enough, that the Manetti does throw up suckers. The fault is not in the Manetti, but in the knifeholder, who neglects his work or slurs it over. To the beginner who would bud his own it is one of the most useful and easiest stocks to work; for—I say it advisedly—good as is the seedling Briar for growth, &c., it is a difficult customer to bud, and, as my experience goes, far more buds die on it from the knotty character of the stem than do on the Manetti: that is at least my experience.

Equally with Mr. Peach am I surprised that at least ten or fifteen (Mr. Peach says twenty) Roses are not named by everyone in naming forty-eight. It is a mystery to me, and I mutter to myself, *Tot homines*, or its English version of Apples and Onions. We do not all think alike, and some of us, I suppose, are woefully unfortunate and never get a Rose in its true character. As to Capitaine Christy, this has been a season for him, I fancy. I never saw it beautiful till this year, when I have cut several; but on a small plant in our cottage hospital garden I saw three splendid blooms out at the same time. Looking at them, carrying them in my mind's eye, and recollecting how a beautiful flower fixes itself on the memory, I should not be surprised at any person placing it in the second twelve, but in an unfavourable season I fear it will come ragged and coarse. Talking of Roses making a lasting im-

pression, I can picture some that many years have not effaced: and for years in my household, whenever Roses are the topic before strangers as to beauty of blooms, one of my daughters is sure to exclaim. "Ah! I never saw such a Rose as that Niphetos at our Rose show." This was some six years ago, and the exhibitor "WYLD SAVAGE." Well, yes, it *was* a Rose!

Once again I entirely coincide with Mr. Peach that "the only thing admissible in preparing blooms for exhibition is to remove a damaged petal." I do not quite like even this admission.

With Mr. Beachey I agree that exhibiting Roses is not *the* great pleasure in having them. I like them in the garden, in the house, and to send out to those who have none. This last is certainly my greatest delight connected with Roses. I feast my sight on them first, retain perhaps some of the best. One season I dressed a stand of eighteen daily in my hall, and directly after my breakfast I dispatch through the season from one to half a dozen baskets into the town.

Two curious things happened to me this season—nearly all my dwarf plants of La France died in the course of the summer; and nearly all the Marie Radys, after making good growth, suddenly turned yellow in foliage as they were coming to bloom, and, the leaves dropping, they looked like following suit, but they appear to have perfectly recovered. They did the same in a friend's garden.

Once again, even though it has been an exhibition election, yet judged by garden tests the large proportion of the seventy-two are not robbers; and after having learned to love the exquisite form of a good exhibition Rose, the flatness of many of the garden varieties does not contrast favourably, and, like matured taste in fruit, you prefer one in perfection to numbers that are sour or past their prime.—J. HINTON, *Warminster*.

FORCING VEGETABLES.

RHUBARB.

ALTHOUGH Rhubarb can hardly be considered a vegetable it is an article much grown in the kitchen garden, used in the kitchen, and forced throughout the winter season of the year. Where Apples are scarce Rhubarb is a good substitute for them. And for many purposes it is very useful. One great point in its favour is that it is easily forced, and those who care to do so may have a supply all the year round.

When forcing is begun at this time, or before the new year, the best way is to lift the roots and force them out of the ground. After the new year the roots throw up growths freely without being removed. When the roots are lifted any long ends may be cut off, so as to get them into small compass. Only roots with well-matured crowns should be selected thus early, and the finer the previous produce has been, and the wider the roots have been growing apart, the better will the crowns be ripened and the more readily will they force.

There are two ways of forcing Rhubarb—one in light and the other in darkness. Unless the heat is very strong, in the former case the stalks do not always grow freely, and are not tender, but in the dark it always grows quickly with sufficient heat and extremely tender. We have sometimes forced it in the bed of a Melon pit in full light, but we prefer it in the dark, and generally force it in the Mushroom house referred to in our notes on Seakale forcing. A good hotbed about 2½ feet thick is made, and the roots are packed close together on the top of it. The space between the roots is filled up with some old soil from the potting shed, and the whole is covered over so as just to leave the crowns above the soil. They are then watered with tepid water, and the hotbed and darkness soon do their work. We do not study to have any set heat at either top or bottom, only the latter should be the strongest, and the former will do well if it is between 60° and 70°. With good roots and ordinary attention the first dish may be gathered three weeks after the roots have been placed in heat. A few roots will give several dishes for some weeks in succession, and a few placed in heat every two or three weeks will keep up a constant supply. It may also be forced well above any boiler or fire provided it is covered well over with soil and kept constantly moist. When such places are not in the dark it is well to place a box over the young shoots as soon as they appear. If a hotbed is made up anywhere in the open air, the roots put in as recommended in the Mushroom house, covered over with a glass light or wooden shutter, and kept dark, will soon yield stalks plentifully.

In forcing it in the open air in spring it is only necessary to

place some old barrels, boxes, large drain tiles, or flower pots over the crowns and cover the whole with a good quantity of hot dung and old leaves. Care should be taken when the coverings are finally removed that the plants do not receive a severe check, or it may injure them for some years. When the roots are lifted to force we seldom plant them again, as a new stock of fine plants can always be secured by dividing old roots in spring and planting them out in good soil.—A KITCHEN GARDENER.

DRESSING CARNATIONS.

HAVING been an exhibitor for many years of various kinds of flowers I may perhaps be allowed to make a few remarks on the above subject. Is it right for an exhibitor to dress his Carnations or other flowers for exhibition? My own opinion is decidedly "yes," provided that first there is no rule of the society infringed in so doing; and secondly, that the dressing consists merely of the removal of a blemish or the skilful arrangement of the petals of the flower, so as to show it to the best advantage.

"D," and also my friend "WYLD SAVAGE" object. They say first that dressing is unnatural and artificial, and second that it gives one exhibitor an undue advantage over another. As to the first objection, that it is "unnatural and artificial," is not the production of a show flower from beginning to end artificial, and in one sense unnatural? Whoever yet expected to cut a show Rose by leaving his bushes to take care of themselves? Are not budding, manuring, pruning, thinning out the shoots, disbudding, shading, supporting, and training all artificial? If the exhibitor may not arrange the petals of his flower to advantage, why may he arrange the branches of his plants? I have never yet heard "WYLD SAVAGE" or "D," cry out against the marvellously trained pot Roses of Turner or Paul, and yet what would they be if every shoot, bud, and flower were not kept in place in an unnatural way by artificial means? They hold up their hands with horror because Mr. Douglas takes a few hours dressing his Carnations. Is there nothing to be said of those who spend not hours only but days, weeks, and years in the production of a specimen plant? If we must let Nature alone to arrange the petals of her flowers for show, would it not be equally reasonable to demand that she should be allowed to train herself into shape when plants are concerned? In fact the objection will not hold water.

A show flower is a flower grown by artificial means and shown by artificial means—a proof that Nature has been assisted and yet thwarted—a triumph of the gardener's art over the "WYLD SAVAGE" tendencies of Nature on the one hand, and a skilful taking advantage of its kindly efforts and capabilities on the other. As to the third objection—that it gives one exhibitor an undue advantage over another, and quite right too say I. Is a man not to reap the fruit of his skill? He has assisted Nature and overcome Nature in the growth of his flower. Why not let him alone to assist her in the perfect arrangement of the petals and to obliterate the trace of the thorny and thistly side of Nature, which exists more or less in all her productions, even in a blossom? If he can do this by honest and legitimate means well and good; he deserves to win. But—and here comes the pinch—let him, say I, do it himself. The show bench is, it seems to me, a test of individual skill, and it is no more fair for the exhibitor to import external aid in dressing his flowers than it is to import flowers from a neighbour's garden or to gum the petals of one flower into another.

Mr. Douglas says that the system of florists helping one another tends to promote good fellowship. Well, that may be so in cases where they are well known to each other and the skill of the opponents is nearly equal. I can quite understand Mr. Douglas and Mr. Simonite lending each other a helping hand, but one must not forget that there are often aspirants to fame cropping up at the shows who labour under the disadvantage of not knowing their fellow exhibitors, and under the still greater disadvantage of unskilfulness in the usual artifices of the florist. Such naturally feel aggrieved. An element is introduced into the competition for which they were not prepared. They find out to their dismay that it is one thing to be able to grow a good flower and another thing to be able to show it. They have patiently acquired sufficient knowledge for the first, but are all at sea when it comes to the second. Is it to be wondered at that when they see two or three skilled dressers engaged in transforming a stand of flowers into show

trim and are unable to do it themselves or to obtain help, that they feel that an unfair advantage is being gained over them? This being so allow me to suggest a remedy. Let there be a rule inserted in the schedules of the various societies that exhibitors or their gardeners must dress and set up their own flowers without assistance, and that any infringement of this regulation will disqualify.

Finally, that Mr. Rudd once showed a Carnation which did not need dressing and won is no proof that the generality of Carnations do not need it. Almost all flowers need a little manipulation of some sort to show them off to the best advantage, and no one was more surprised than I to hear that "WYLD SAVAGE'S" Roses all grow with stiff backs, so that they do not need the artificial assistance of wires to aid them to hold their heads up, and petals so beautifully arranged that they can without exception be shown as cut from the tree.—R. W. BEACHEY.

I HAVE read attentively the various remarks in your Journal on dressing Carnations. As probably I am one of the oldest florists in England, being within a few weeks of eighty-one years old, and as I commenced growing florists' flowers in 1812, I have witnessed the great improvement in all descriptions. My first essay was in Pinks, then Auriculas, Polyantheses, Tulips, Carnations, and Picotees. At one time I grew upwards of six thousand Tulips, a thousand Auriculas, upwards of a thousand Polyantheses, and in Carnations and Picotees upwards of five hundred pots, besides a large quantity in beds. In 1830 the Picotee was striped at the edges, and in a few years John's Prince Albert was raised, which became the original parent of all the fine sorts now grown. At that period Carnations and Picotees had to undergo the operation of dressing as well as Pinks and Auriculas. I well remember nearly sixty years ago I lost a first prize through my dresser cracking a petal in one of my Auriculas. I never knew a flower being staged without being operated upon: even Tulips had to submit to the pencilling in removing any dirt that might by flies have been soiled. I once wrote an article against cards being used to support the petals, but now I feel persuaded that the cards tend to improve the appearance of the blooms.—JOHN SLATER, *Late of Cheetham Hill, Manchester.*

GARDEN POTATOES.

It is well known that our best and most profitable Potatoes, although adapted for field culture on a large scale, are not as a rule the varieties to grow in rich garden soil, as their character for flavour and solidity generally becomes impaired at the cost of increased size. Bearing this in view a few years ago I consulted that eminent authority Mr. R. Fenn as to which was the best general-crop Potato for an amateur to grow in the rich old humus of a town garden; and acting on his somewhat qualified advice—for he honestly would not recommend thoroughly either the old Lapstone or his own handsome and high-quality Potato Rector of Woodstock for great productiveness—I tried these, and in addition upwards of one hundred other sorts without being able to obtain all I desired.

For flavour and appearance the Rector was unapproachable, and amongst the best of the others were the old Early Oxford, which when obtained true is short-topped, and although it comes in early, continues in use until April or May. It is also tolerably fertile and otherwise a good Potato, but it is almost impossible to obtain it true now.

Another excellent Potato, but coming into use somewhat later, is the Oxfordshire Kidney. It is of fine quality and a handsome and prolific sort, but in flavour it is not equal either to Lapstone or Rector of Woodstock.

I believe, however, now that the right Potato is forthcoming in Lady Godiva, raised by the Rev. Mr. Kittle of Birmingham, which seems to combine all the requisites for an amateur's garden and a gentleman's table, with fair size and productiveness. Through the kindness of Mr. R. Gilbert I have been enabled to see and taste it, and it is certainly a great advance upon the Lapstone in form and size. It is a handsome, pebble-shaped, equal-ended variety, skin smooth, and all the tubers appear even-sized; the flesh and flavour are of the same type and quite equal to the Lapstone, which I look upon as the *ne plus ultra* Potato for quality. Lady Godiva, too, will become one of our best show sorts, as it is free from deep and surplus eyes, and in appearance is all that can be desired. I trust I may be able to secure it next year for trial in the Experimental. It will admirably follow Myatt's Early Prolific *alias*

Royal Ashleaf, which is still by far the best early garden Potato.

For an amateur who depends upon his garden for his table supply of Potatoes the following will be a capital half-dozen to grow—viz., Walnut Leaf, and Early Handsworth (Messrs. Fisher & Holmes' stock) both dwarf sorts for frames; and Myatt's, Rector of Woodstock, Lady Godiva, Schoolmaster, and Oxfordshire Kidney for the open ground. I hear excellent accounts also of Woodstock Kidney, Beckenham Beauty, Trophy, and Beauty of Hebron; and if to these be added Snowflake and Sutton's Magnum Bonum—two invaluable and very fertile sorts—an excellent trial twelve will be found, and the trial will, I feel sure, combine some pleasure with little disappointment.—T. LAXTON, *Bedford*.

LILY OF THE VALLEY.

THE detailed account from R. P. Brotherston at page 344 of your number for November 7th on Lily of the Valley, describes a good system of preparing the plants to produce flowers early and annually with much better returns from home-grown plants than from imported clumps. It is easier to have these lovely sweet flowers after the new year than before. Where the flowers are expected from the early part of November and onwards it is not the work of a season to prepare the plants. If forced early for two or three seasons, and the plants are encouraged to make an early growth under the influence of plenty of light, air, and warmth, and after growth is completed placed outside to mature their crowns, so that they can receive an early rest, they will then produce flowers in November if required. We find ours come best when plunged in strong bottom heat with their crowns covered, so that they are not exposed to the light. We have introduced imported plants into heat as soon as they have arrived, and they have remained dormant for six or eight months and then produced flowers. We pot ours in 6-inch pots, in which they give quantities of flowers for several seasons without repotting if liberally supplied with liquid manure while making their growth.—W. BARDNEY, *Norris Green, West Derby*.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 19TH.

WE have to record a very full, gay, instructive, and interesting meeting. The Council-room was rendered brilliant by large groups of Chrysanthemums from Messrs. Veitch & Sons, Chelsea, and Turner, Slough, and excellent stands of cut blooms were also staged. Mr. Bull arranged an extremely attractive group of ornamental-foliaged plants and Orchids, Mr. Wills excellently coloured *Dracænas*, Mr. Smith, Ealing Dean Nursery, *Cyclamens*, and Mr. Cannell splendidly bloomed *Geraniums*. These with some fruit were in the Council-room, and the vestibule was filled with fine collections of fruit and vegetables, groups of flowers, and a wonderful collection of Conifers and winter bedding plants from Messrs. Veitch's, Coombe Wood Nursery.

FRUIT COMMITTEE.—Henry Webb, Esq., V.P., in the chair. Mr. Ross, gardener to Charles Eyre, Esq., Welford Park, Newbury, sent nine Smooth-leaved Cayenne Pines. They were fine specimens of culture, but had unfortunately been kept too long, having become discoloured and spongy. A vote of thanks was awarded. Mr. Muir, The Gardens, Margam Park, Taibach, sent a Smooth-leaved Cayenne Pine. It had been grown in 20° less fire heat than is usually recommended for Pine culture, and the object in exhibiting it was to test its flavour grown under these circumstances. The flavour was excellent, yet the fruit being cold it was not so fully developed as it would otherwise have been. It was brisly acid and rather deficient in sweetness. Mr. Hunter, The Gardens, Lambton Castle, sent a seedling Pine Apple raised from seed of the Queen fertilised with the Smooth-leaved Cayenne. It is a large handsome Pine much resembling the Queen, and weighs 5½ lbs. The fruit had been ripe for six weeks, and had begun to decay. It was the first fruit that had been produced, and the Committee recommended that it should be seen again before giving an opinion. Mr. Charles Howe, The Gardens, Benham Park, Newbury, sent six well-finished bunches of Black Alicante Grapes, to which a cultural commendation was awarded. Mr. Joshua Atkins, gardener to Col. Loyd Lindsay, sent six very handsome bunches beautifully coloured of Muscat of Alexandria Grapes, to which a cultural commendation was awarded. Mr. Johnson, The Gardens, Bayham Abbey, sent three bunches of Mrs. Pince Grape, which were good but had begun to shrivel. Mr. Wood, gardener to Lady Augusta Mostyn, Leybourne Grange, Kent, sent fourteen handsome bunches of Gros Colman Grape. They were very large in the berries and remarkably well coloured. A cultural commendation was awarded. Mr. Harrison Weir, Weirleigh, Kent, sent bunches of Muscat Champion grown in a

ground viney. They were remarkably well grown, and a cultural commendation was awarded.

Mr. R. Gilbert, The Gardens, Burghley, sent a bunch of Trebiano, large and handsome. He also sent his new Melon Netted Victory, which was awarded a first-class certificate a short time ago. The fruit which was sent on the present occasion was, considering the late season, very highly flavoured, and maintained the high character it had received. He also exhibited a seedling Apple called The Student, which had passed its best, and the flavour had gone. It is a handsome good-looking Apple, and the Committee requested to see it in better condition before giving an opinion upon it. Mr. Plester, The Gardens, Elsenham Hall, Thetford, sent a seedling Apple not named, which is of a very promising character, and it was recommended to be shown again cooked at the next meeting. Messrs. J. & C. Lee & Son of Hammersmith sent a dish of Russian Transparent Apple, a good-sized Apple with a tender flesh like Calville Blanche. They also showed a seedling called Barnack Beauty, a small Reinette-shaped fruit highly coloured with a tender flesh, and of good flavour. The tree is said to be very productive.

Mr. J. Dobell, Island House, Loughborough, sent a dish of a seedling Apple which too much resembled Bess Pool to be considered distinct. Messrs. W. Paul & Son of Waltham Cross sent a seedling Apple called Waltham Cross, a very pretty roundish oblate and highly coloured fruit of good flavour. Messrs. Paul exhibited two others which did not possess great merit. Mr. Gilbert of Burghley sent, besides his other exhibits, a dish of Tomatoes, six Telegraph Cucumbers, Lettuce Selected Brown Cos, seedling Cucumber Dispatch, to which a letter of thanks was awarded. A seedling Potato called Lady Godiva (Kittoe), was of handsome form and good quality.

Mr. Ross, Welford Park, Newbury, sent a seedling Cucumber raised from Duke of Edinburgh crossed with Tender-and-True, but it was not considered an advance on existing varieties. Mr. Charles Frisby, The Gardens, Blankney Hall, Sleaford, sent a seedling Beet Frisby's Excelsior, of long narrow shape and good colour. Mr. R. Dean, Ealing, sent a dish of Vicar of Laleham Potato. Mr. George Donaldson, Keithball, Inverurie, sent a seedling Potato; and Mr. Ironside, Ingleston, Keithball, sent another seedling called Oliver Cromwell, both of which were to be tested at Chiswick. Two varieties of Turnip grown in the Chiswick Garden from seed received from Mr. W. Porter, Old Meldrum, N.B., were exhibited. They were received under the respective names of White Prize and Yellow Prize, and proved to be Snowball and Golden Ball. Mr. Sidney Ford, The Gardens, Leonardslee, Horsham, sent a dish of a seedling Apple called Dr. Hogg, very much resembling Calville Blanche in shape and colour, and with the delicate flesh of that variety. It was referred till next meeting, and was to be cooked when exhibited. Mr. Ford also exhibited a very fine collection of thirty-six dishes of Apples and a fine dish of Red Currants, to which a silver Knightian medal was awarded.

FLORAL COMMITTEE.—G. F. Wilson, Esq., F.R.S., in the chair. Taking the collections in the order of their arrangement we first arrived at a very large group of Chrysanthemums arranged by Messrs. James Veitch & Sons. The plants were grown in a natural manner—that is, they were not trained, nor had their buds been much thinned out. The group included all the best varieties in cultivation, and had an extremely gay appearance. A silver Banksian medal was recommended. Mr. Turner exhibited standard plants, models of their kind, with heads resembling those of well-grown standard Roses, and remarkable for the short flowering branches, which needed no tying to render the heads compact. All the best old and new varieties were included, two especially fine being La Nymph, pink Japanese, and Sœur Melanie resembling a small Elaine, and very floriferous—a splendid group, for which a small gold Banksian medal was recommended. Mr. Turner also exhibited a collection of cut blooms of good quality. Mr. Smith, gardener to Miss Sullivan, Broom House, Fulham, exhibited a dozen plants of Chrysanthemums remarkable for the size of their blooms, especially those of Golden Queen and Empress of India. A small bronze Banksian medal was recommended. Messrs. Jackson & Son, Kingston-on-Thames, exhibited cut blooms of Japanese Chrysanthemums, for one of which—Mons. Crousse, coral red, compact, and good—a first-class certificate was awarded.

Mr. Wills's group of *Dracænas* included the finest of the Anerley varieties, and striking amongst them was a well-coloured plant of D. Goldieana. The group was margined with small plants of *Adiantum farleyense*. A silver medal was recommended. Mr. Wills also exhibited *Anthurium Gustavii*, with green roundish cordate leaves nearly 18 inches long and 15 wide, the surface containing prominent white radiating veins.

Mr. Bull's group was very rich, the Orchids comprising *Lælia marginata*, very fine; *Cattleya Skinneri*; the new and distinct *Dendrobium superbiens*, also D. bigibbum; *Calanthes* in variety; *Odontoglossum vexillarium rubrum* very fine, *Inseleyi leopardinum*, crispum, and *Forbesii*; *Oncidium varicosum* and *tigrinum*; *Cypripedium*, *Masdevallias* and *Sophranites*. The group also included small and highly attractive plants of *Sarracenia Drum-*

mondi, *Anthurium Dechardi*, *Lilium neilgherrense*, *Dracænas*, Palms, and Crotons. A second-class certificate was awarded to *Odontoglossum madrense*. It has white sepals with maroon blotches and a rich yellow lip. The flowers are about 1½ inch in diameter, and are highly perfumed. Mr. Bull also exhibited *Croton Dormanianus*, a distinct variety of the volutus type, but the leaves somewhat spatulate—a promising variety. A gold Banksian medal was recommended to be granted to Mr. Bull for his excellent group.

Mr. Rowley, gardener to W. H. Covington, Esq., Esam Lodge, Streatham Common, exhibited large plants of standard *Heliotropes*, which were shaken in transit, and was awarded a vote of thanks. A similar award was made to Mr. Smith for *Cyclamens*, which were very fresh and fine considering the earliness of the season. To one of them, *Mont Blanc*, white, large, well-formed flowers borne on footstalks a foot high, a first-class certificate was awarded.

A first-class certificate was awarded to Messrs. Veitch & Sons for *Calanthe Sedeni*, the result of a cross between *C. vestita* and *C. Veitchii*. It is a splendid addition to this valuable class, being much deeper in colour than *C. Veitchii*. The flowers are the largest and richest of all, being very deep rose suffused with magenta, and a richer throat margined with white. The colour increases in intensity with the age of the flowers. The spike is robust and gracefully arched. This will become a standard variety, and will be coveted by all growers. Messrs. Veitch also exhibited *Cypripedium Laurenceanum* with grand marbled foliage and a very large expanded flower, and another forming on the same spike. It is of the *C. barbatum* type, and was sent from Borneo by Mr. Burbidge.

Mr. Jacques, gardener to J. Perrin, Esq., was awarded a first-class certificate for *Odontoglossum Alexandræ* var. *Perrini*, the most distinct variety that has yet been exhibited, every flower being broadly margined with purplish lilac. It is both novel and attractive. Mr. Cannell exhibited wonderfully fine groups of *Geraniums* White and *Salmon Vesuvius* in 5 and 6-inch pots, each plant carrying six to eight fine trusses, the tops of the flowers not being more than 6 inches from the surface of the pots. Mr. Cannell also exhibited grand bunches of cut blooms of leading zonal varieties, and was worthily awarded a vote of thanks. Mr. Gilbert, The Gardens, Burghley, Stamford, exhibited cut flowers of double *Primulas*, one of which—*Lord Beaconsfield*, is very rich in colour, and all were fine. Some of them had been previously certificated, and the variety named would possibly have received the same honour had a plant of it been exhibited instead of cut flowers.

Messrs. Hooper & Co., Covent Garden, exhibited about fifty plants of *Begonia Frœbelli* raised from seed sown in the spring. The plants were in 5-inch pots, and had fine foliage and flowers—valuable and attractive. A silver medal was recommended. The same firm also exhibited good *Cyclamens* and cut blooms of *Chrysanthemums*. Mr. Atkins, gardener to Col. Loyd Lindsay, Lockinge, Wantage, also exhibited a stand of *Chrysanthemums*, the blooms being arranged on moss, and was awarded a vote of thanks.

Mr. A. Waterer exhibited *Conifers* and a bright golden *Holly*—*Ilex scotica*—to which a first-class certificate was awarded. Mr. C. Noble exhibited *Thujaopsis borealis aureo-variegata*, which has been previously certificated. It is a free-growing and valuable *Conifer*. Mr. Ford, gardener to W. E. Hubbard, Esq., *Leonardslee*, was awarded a vote of thanks for cut sprays and cones of *Conifers*. Messrs. Veitch's collection of winter bedding plants—*Conifers*, berried shrubs, dwarf evergreens, &c.—was exhibited in a hundred flat baskets each 4 feet in diameter. The plants could not number less than two thousand, and probably much exceeded that number. It was altogether a remarkable contribution, and a gold Banksian medal was recommended to Messrs. Veitch. Sir C. W. Strickland, Bart., exhibited a flowering plant of *Coburgia trichroma*, for which a cultural commendation was awarded. A botanical certificate was awarded to Mr. Green, gardener to Sir G. Macleay, Bart., for *Hoplophytum calyculatum*, and a vote of thanks to Mr. Noble for *Crimson Bedder Rose* as a late-blooming variety.

Abutilon igneum with pendant crimson flowers, *Begonia Moonlight* very fine, and cut flowers of *Bouvardias* in upwards of a dozen varieties, were sent from the Society's gardens at Chiswick. The meeting was an excellent one, and there was a large attendance of visitors.

SPECIAL PRIZES.—The prizes offered by Messrs. James Carter and Co., Messrs. Sutton & Sons, and Messrs. Hooper & Co. were competed for at this meeting. For Messrs. Carter's prizes for a collection of ten dishes of vegetables, the kinds being stipulated but not the varieties, there were thirteen competitors. Mr. Pragnell, The Gardens, Sherborne Castle, received the premier position with splendid dishes of Improved White Spanish Onion, Schoolmaster and Magnum Bonum Potatoes, Williams' Matchless Celery, James's Intermediate Carrot, Veitch's Autumn Giant Cauliflower, Early Snowball Turnip, Carter's Heartwell Marrow Cabbage, Carter's Maltese Parsnip, and Pragnell's Exhibition Beet. Mr. G. T. Miles, Wycombe Abbey, was an excellent

second; Mr. G. Neal, gardener to T. Southby, Esq., Bampton, Oxon, third; and Mr. J. Baker, Broad Street, Bampton, Oxon, fourth.

Mr. Pragnell also won the first position in competition for Messrs. Sutton's prizes for a collection of vegetables with Early Snowball Turnip, Suttons' Improved Reading Onion, Tender-and-True Cucumber, Fulham Prize Celery, Suttons' King of the Cauliflowers, Imported Brussels Sprouts, Schoolmaster Potato, Carentan Leek, Green Curled Savoy, Suttons' Student Parsnip, James's Intermediate Carrot, and Suttons' Improved Beet, all in admirable condition. Mr. G. Neal, gardener to T. Southby, Esq., Bampton, Oxon, was second; Mr. W. Iggulden, gardener to R. B. Wingfield Baker, Esq., Orsett Hall, third. Six excellent collections were staged, several of the varieties being stipulated. Messrs. Suttons' prizes for twelve Magnum Bonum Potatoes brought out fifteen competitors. Mr. G. Donaldson, gardener to Lord Kintore, Korthall, Inverurie, was placed first; and Mr. T. Bailey, gardener to Capt. Drake, Shardeloes Gardens, Amersham, second. For twelve Improved Reading Onions there were eight entries, Mr. G. Neal, Bampton, Oxon, being placed first, and Mr. John Baker, Broad Street, Bampton, Oxon, second. The produce in these classes was highly meritorious. For Messrs. Hooper's prizes (offered for six dishes of the following new Potatoes—McKinlay's Pride, Covent Garden Perfection, Grampian, Triumph, Trophy, and Burbank's Seedling), Mr. P. McKinlay, Woodbine House, Beckenham, and Mr. James M. Gilks, Wickham, Newbury, Berks, were the only exhibitors, and were awarded the prizes in the order named.

GARDEN FENCING.

CAN any of your readers offer me suggestions for a cheap, durable, and reasonably safe fencing for the experimental garden (about three acres, mostly unfenced) at Sandy, Beds? Foreign timber, oak and larch poles, also steam sawing and cutting, are tolerably cheap in the locality. A wall, on account of the depth of soil and expense, is out of the question. At present I can foresee nothing better than a close wooden fence for a portion of about 300 feet on the north side, so as to afford a sheltered south border; and for the remainder, of about 16 chains, a post and rail pale fence, the wood for posts being oak, and the posts and rails of red deal, larch I am told being best but more expensive, the wood for rails and pales being rough-sawn diagonally. Is there anything better or cheaper than this? and what are the best materials, especially for the close fence? It has been suggested that old railway sleepers would make good and cheap posts, and black Italian poplar for the boarding of the close fence. If railway sleepers are used should they be sawn in two? At what depth in the ground and distances apart should the posts be placed for the close and pale fences? and what the sizes, thicknesses, and distances of the posts, rails, pales, and boards? Will two or three arras rails be necessary for a 5 feet or 5-feet 6-inch fence? What is the best material to coat it with? and what should be about the complete cost per chain of the close and pale work?—T. LAXTON, *Bedford*.

PRUNING SHRUBS.

THE timely and sensible notes under this heading on page 361 induce me to call attention to the important fact, that shrubs chosen without due thought or knowledge of the leading peculiarities of their fully developed forms often leads to crowding, which it is sought to prevent by a system of hacking and hewing unworthy of the name of pruning. Almost all ornamental shrubs become so naturally with very little assistance from the pruner's hands—no more, in point of fact, than the "removing one of the leaders when two are forming," or cutting a few points off to impart balance and symmetry, as "PRACTICALIST" points out, provided they have the full benefit of light and air on every side. Far better have a dozen really well-grown specimens than a hundred wretched starvelings crowded together in an unmeaning jungle, often battling for bare existence. For securing handsome shrubs thinning, transplantation, and re-arrangement are much more important than pruning, the necessity for which they in a great measure enable us to avoid when practised with requisite promptitude and care.

In addition to its beneficial effect upon the shrubs the process of thinning places many thriving young specimens at our disposal for the enrichment and decoration of other parts of the garden, and so a new shrubbery planted thickly in the first instance for the production of a certain immediate effect becomes, for a time at least, a nursery whence we can gradually withdraw a store of shrubs at our own convenience and at any

favourable moment of the planting season. That season has again come round, and is likely to be a busy one, for the past summer was remarkable for the robust growth of almost all trees and shrubs. Above all plant early and plant well, and so avoid those vexatious losses so frequently resulting from tardy planting and a dry spring; for it is those scathing parching blasts from the bitter north-east that so often cause branch and leaf to shrivel and to disfigure the garden with those unsightly objects—half-dead shrubs.—EDWARD LUCKHURST.

CELOSIA PYRAMIDALIS.

ALONG with this I send you a few sprays of *Celosia*, which are extensively grown here for autumn and winter decoration. It is a wonder they are not more generally and extensively cultivated than they are, for few plants are more ornamental and useful at this season. They last in bloom for months, and are very lasting in a cut state.—D. THOMSON, *Drumlanrig*.

[We never saw such handsome plumes; the crimson variety combining elegance with richness in colour in a remarkable degree, and the yellow variety is extremely chaste. They represent a splendid strain of a valuable section of *Celosia*, and have been admirably cultivated.—EDS.]

NOTES AND GLEANINGS.

"AN OLD EXHIBITOR" writes—"Some of your grateful readers would propose to join in a little TESTIMONIAL, to take the form of a silver inkstand, as a slight tribute of gratitude to our 'returning officer,' Mr. JOSEPH HINTON, for his valued labour of love now extended over several years; and I feel sure many of your readers who have benefited by the election of Roses would feel obliged if the Editors of the Journal would kindly undertake to receive their subscriptions for this purpose."

—We have received a long letter from Mr. Wills on the subject of a COLONIAL MUSEUM FOR LONDON, in which he assumes that "the Council of the Royal Horticultural Society have taken steps with a view of allocating a site for the Colonial Museum the situation I had the honour of suggesting in my memorial to His Royal Highness the Prince of Wales and Her Majesty's Commissioners of 1851." As we are in a position to state that the Council of the Royal Horticultural Society have taken no such steps as were indicated in Mr. Wills's letter, and that such a matter is quite beyond their province, we suspect that Mr. Wills must be labouring under some misapprehension on the subject, and we have therefore thought it better that this letter should not be published.

—VISITORS to the CRYSTAL PALACE during the past three weeks must have greatly admired the fine display of Chrysanthemums grown by Mr. Thomson. The plants during previous years have been arranged in a semicircular group at the front of the orchestra, but this year it has been found necessary to place them in other parts of the building. The change is an improvement rather than otherwise. Splendid groups are now arranged at both ends of the great transept and in one of the side courts. The most striking blooms are those of Golden Empress of India. These are indeed magnificent, and undoubtedly the finest that have ever been produced. All the varieties of Queen are similarly remarkable for their great size, as also are Prince Alfred, the Beverleys, Guernsey Nugget, Bronze and Yellow Jardin des Plantes, Lady Hardinge, Dr. and Mrs. Sharpe, Abbé Passaglia, Peter the Great, Lady Talfour, Mr. Murray, Alfred Salter, Golden Eagle, and John Salter. Very rich are Mount Etna, Julie Lagravère, and Bernard Palissy; and a white reflexed variety of moderate size, and extremely floriferous demands special attention—Sœur Melanie; for general decorative purposes and for affording a supply of cut blooms for vase decoration this is one of the best varieties that can be grown. About four thousand plants of Chrysanthemums are grown at "the Palace," and the display has never been finer than during the present autumn.

—We have seen a very useful contrivance introduced by Messrs. Tidcombe & Son of Watford, Herts, called the GRAVEL-WALK METAL SCRAPER MAT. The name indicates its use. It is to be placed at the entrances to residences, conservatories, greenhouses, and flower gardens, to clean the feet from accumulations of gravel, which too frequently cling to them in certain states of the weather. This it does very effectually, as we have proved by using it; and as the material of which it

is composed is iron, it is far more durable than anything of a similar nature made from vulcanite, cocoa-nut fibre, or such perishable materials. Why should it be called "a mat?"

—A LINCOLNSHIRE CORRESPONDENT informs us that the RUSSIAN TRANSPARENT APPLE has been selling in the local market at 4s. the stone of 14 lbs.—more than double the price of ordinary Market Apples. In the same market the selling price of Beurré Diel Pear is 5s. per stone. On the above grounds our correspondent recommends the fruits named as being profitable for market purposes.

—A GRAND and extensive display of CHRYSANTHEMUMS is now arranged in VICTORIA PARK for the gratification of the "east-enders" and visitors generally. The plants are in pots and have been excellently grown. They are arranged under canvas, the front of the improvised tent, facing south, being rolled up during fine days. The group is about 100 yards in length and 9 feet wide, the taller plants at the back being 7 feet in height, the others in front sloping down and finishing with Pompons little more than a foot high. There is thus a face of bloom of about 900 square yards in extent. Between three and four thousand plants are employed, and the group has, as may be expected, a very imposing appearance; hundreds of blooms are of exhibition quality. Upwards of 120 large-flowering varieties are grown, and about thirty varieties of Pompons. Recently the weather has been unfavourable for visitors, but during fine days the numbers attending to inspect the display prove how much the flowers are admired, and how thoroughly, and deservedly, Mr. McIntyre's efforts to render the Park to the fullest extent possible enjoyable and attractive are appreciated.

—WE are informed that the excellent arrangements of the PUTNEY SHOW were due to Mr. Stevens of St. John's Nursery, who gave valuable assistance to Mr. Moore, the Secretary.

—"A METROPOLITAN NURSERYMAN" writes to us as follows on ROSE-SHOWING:—"I am very glad to see in your last issue the letter signed 'A LOVER OF ROSE SHOWS,' because I think it is quite time that we metropolitan nurserymen had a share of the prizes at the great Rose tournaments. What your correspondent says as to the uselessness of our competing with those who usually carry off the prizes is quite correct, and for the reasons he mentions—viz., unfavourable conditions of soil, atmosphere, &c., and the much smaller numbers that we have to cut from; so that I hope the National and other Rose Show committees will offer prizes for suburban nurserymen and also for amateurs."

—STANDARD CHRYSANTHEMUMS, three or four varieties being grafted on one stock, are really attractive when well grown. By far the finest we have yet seen were exhibited at the Walton Show by Mr. Ploughman. The stems were nearly 3 feet in height and the heads 2½ feet in diameter, not trained on umbrella trellises, but grown in a more natural manner, the shoots being bent and secured to each other. It is important that varieties be selected for this mode of culture that flower at the same time. Those grafted on the same standard by Mr. Ploughman were Mrs. Halburton, Venus, Mrs. G. Rundle, George Glenny, Mrs. Dixon, and Hereward, all of which produced excellent blooms. They were much admired.

—ONE of the finest ZONAL PELARGONIUMS for winter decoration, writes "A CONSERVATORY FOREMAN," is DAVID THOMSON. Its large glowing crimson-scarlet trusses never appear more freely than during the dull months of the year, and few flowers are now more rich and useful. The plants flower freely in a temperature of about 45°. This valuable variety was raised by Mr. Pearson at Chilwell, and is well worthy of cultivation for the purpose indicated.

—"D. J., *Honick*," writes as follows in reply to "A PUZZLED HOUSEWIFE," as to the best way to PRESERVE SOFT FRUIT, such as Gooseberries, Cherries, Currants, Plums, Apricots, Damsons, and Peaches:—"After filling the bottles with fruit, place them in a fish kettle in cold water, packed closely with soft hay to prevent them from shifting. After the fruit is cooked take them out and fill them with boiling water and cork them at once, not permanently; let them stand till cold, then uncork and fill up with salad oil; then cork and tie down tight and seal them closely. Treated such the fruit will keep for years; in fact, I have known a Melon to have been over twenty years in the bottle and taken out fresh. I may mention that the coarse wax should be used, and have it boiling in a pan, and dip the bottles in till the corks

are covered, which will take two or three dippings at least. But to be thoroughly successful the fruit ought to be in the best possible condition, thoroughly sound, and only use one sort in a bottle; for instance, if two or more sorts of Gooseberries are used in one bottle they never keep satisfactorily."

CENOTHERA FRASERII.

CENOTHERA FRASERII is a showy erect-growing species, in favourable soils attaining a height of from 2 to 2½ feet. The flower stems are branched and somewhat thickly covered with oval dark green leaves. The flowers, which are light yellow, are borne on leafy racemes, and appear in succession from the end of May to September. It is less of a night bloomer than



Fig 59.—*Cenothera Fraserii*.

many of the other species, and is well worth being included in collections of hardy herbaceous plants. It is also one of the hardiest, and will do well in any good garden soil, but prefers a mixture of sandy peat and loam. I have seen many years ago a variegated-leaved variety in cultivation, but it was in no sense more ornamental than the normal form, and now seems to be lost. A native of North America, propagated by seed and by careful division early in spring.—R. D. TAYLOR.

THORN APPLE.

THIS plant, *Datura Stramonium*, is not as much grown as it deserves to be. It is a very pretty plant for subtropical beds. Well cultivated it will rise from 2 to 3 feet high, and be the same in diameter. Its foliage is glossy green, and it produces pure white funnel-shaped flowers. Its seed pods are not much unlike the husk of the Horse Chestnut, but oval instead of round, and covered with sharper spines. The pods should be gathered when full grown, and the seed be preserved until the bed or border it is proposed to grow it in has received its spring dressing. When the plants have become 3 or 4 inches

high single them. To a mixed bed they are a great addition. I find the plants do much better if treated in that way than they do if transplanted. Besides being ornamental it is useful. The leaves gathered when full grown, dried, and mixed with an equal quantity of tobacco and smoked, give great relief to anyone suffering with asthma.—S. TAYLOR, *Castlecroft, Wolverhampton*.

HOLEYN HALL,

THE SEAT OF MAJOR WOODS.

MANY gardens of moderate extent are, by the excellent manner in which they are kept and the good cultivation that is practised in them, equally worthy of note with gardens of greater magnitude. The grounds and gardens of Holeyne are noted for their attractive appearance; and the admirable condition of trees, plants, and vegetables affords testimony of the ability of one of the most highly esteemed and best gardeners in the north of England, Mr. Cooke. For a long period prior to Major Woods becoming the owner of Holeyne Mr. Cooke was engaged there, and his services both as a landscape gardener and a cultivator were splendidly recognised by his late employer, who bestowed on his valued servant a life annuity of £100. With such tangible evidence of the gardener's worth Major Woods retained his services, and has proved their value now during several years.

Holeyne Hall is pleasantly situated near Wylam, a few miles from Newcastle-on Tyne. It is on rising ground overlooking the valley of the Tyne, and commands a fine view of the bold and picturesque hills across that river. The mansion is sheltered from the north by a skirt of trees, in which the Austrian Pine predominates, and gives proof of its usefulness as an evergreen screen tree. South of this sheltering belt, and between it and the pleasure ground proper, is a small pinetum, where specimen Conifers are tastefully disposed on grass. Handsome examples of *Piceas nobilis* and *Pinsapo*, *Pinus Douglasii*, *Cupressus Lawsoniana*, *Wellingtonias*, *Deodars*, &c., command attention, and in an open space amongst them the croquet ground is formed. Separating the pinetum from the pleasure ground is a belt of shrubs and some fine timber trees. Associated with the trees are evergreens and deciduous flowering shrubs, which grouped artistically form an admirable northern boundary to the dressed grounds and flower garden. These extend from the mansion westwards. Contiguous to the mansion is a terrace walk, from which broad flights of stone steps flanked with vases conduct to the lawns below. These are ample, and afford the necessary relief to the stonework on the one hand and the bold clumps of shrubs on the other. The flower garden is not a modern mass of colour that startles the visitor by its brilliancy; on the contrary the beauty is of a sober kind, and is not confined wholly to the summer season. The flower beds are large—sufficiently so to contain dwarf flowering shrubs and hardy plants, with here and there a specimen Holly and Thuja. Hardy Heaths and Alpine plants have a share in the decorations. Other beds during the summer contain an unique collection of succulents, such as *Aloes*, *Echeverias*, *Sempervivums*, *Haworthias*, *Pachyphytons*, *Kleinias*, and *Rocheas*—fine old plants that were grown and cherished at Holeyne before plants of this nature became fashionable in the London parks. Other beds contain flowers, mostly in mixture, some gay, others sweet, some ancient, others modern, but shrubs, Conifers, and hardy flowers preponderate, and especially noticeable are grand clumps of Pampas Grass. Some of the shrub groups are rendered additionally attractive by having bold examples of rockwork arranged on their margins, and on which American and Alpine plants flourish, and to which Yuccas and dwarf Conifers afford agreeable variety. These well-covered rocks with Ivy-clad mounds are a prominent feature of the grounds, and have a pleasant satisfying appearance which only age combined with good keeping can impart. Shrub groups and belts, isolated specimens of evergreens and Conifers, with here and there a bed or fringe of flowers, are so disposed that something of interest attracts at every turn, and the comparatively small grounds are made to appear large—at least, a considerable time may be spent in examining their diversified attractions.

The pleasure grounds extend to the kitchen gardens, which slope towards the south. The garden wall next the pleasure grounds is rendered attractive by ornamental climbers—Ivies, *Ampelopsis*, *Loniceras*, *Clematides*, *Azara microphylla*, &c.—the border next the wall being planted with Roses, the oppo-

site side of the walk being a Rhododendron border backed with taller shrubs. The walk between the two borders is 100 yards long; and the borders sloping to the walk, and the walk itself to the Tyne Valley, afford an extensive view of the distant hills through a floral vista of great beauty during the spring and summer months. Such are some of the attractive features of Holeyn. We turn now to the more useful yet not much less enjoyable enclosures devoted to the growth of fruit and vegetables.

In the walled kitchen garden we find what is rarely seen except in gardens that have long been under the charge of the same manager—namely, grand espalier fruit trees. These trees are models of good training, the result of years of attentive care. The branches of these trees are horizontally trained as “straight as gun rods” and of great length. They are about a foot apart, and are studded with spurs “close at home,” and bear abundant crops of fine fruit. Than trees such as these few are more profitable considering the space

they occupy, and nothing imparts a better or more appropriate appearance to a kitchen garden. The walls, too, are well covered with well-trained and profitable fruit trees, such Pears as Marie Louise and Jargonelle being grown on the south wall, and these produce splendid fruit. The vegetable quarters by their productiveness and cleanliness indicate that the same care is bestowed on them as on the ornamental portions of the grounds. At the front of the kitchen garden is the hardy fruit garden. It is bounded by shrubs, and intersected by grass walks kept close by the mowing machine. But the trees are the prominent attraction. The standard orchard trees have been trained, and are as regularly pruned as the espaliers; the branches are consequently thinly disposed and are studded with spurs to the base. In a notoriously bad fruit year these trees were laden with fruit, the finest crop that came under my notice during the year of my gardening rambles from Kent to the Grampians.

The glass structures remain to be briefly noticed. They are



Fig. 60.—HOLEYN HALL.

not extensive. The vineries are about 100 feet in length, and produce a good supply of excellent fruit. Peaches, Plums, and Apples are also grown under glass in a lean-to structure 150 feet in length; Peaches being chiefly trained on the back wall, and the Plums and Apples being grown as bushes in the border. The latter consist chiefly of Calville Blanche, Newtown Pippin, Cox's Orange Pippin, Melon Apple, and Dutch Mignonne, all of which are well adapted for and are highly worthy of orchard-house culture. Smaller houses, also frames, are devoted to plants for decorative purposes. The houses were erected by Mr. Bowman of Newcastle, and were heated by Messrs. Walker & Emley of the Neville Iron Works—firms of good repute in the district, and even beyond it. It may be truthfully said of the gardens and structures at Holeyn Hall that every corner was occupied, and every portion clean and ornamental.

The gardener's house demands a note from its great age and comfortable character. A date on it is prominent—1687. Though venerable, it, like its tenant, yet appears strong; and those who best know Mr. Cooke hope that it will afford him shelter for many years to come. As prominent ornaments of one of the rooms are a handsome wine case, with an inscription telling that it was presented by Col. Burrell and officers of a regiment stationed in Newcastle in recognition of the

excellent fruit supply from Holeyn; also gold medals and silver cups which have been won in public competition.

Mr. Cooke is admittedly one of the most useful members of the working Committee of the flourishing and successful Botanical and Horticultural Society of Newcastle—a Society that was seldom more successful than during the year when Major Woods was its honoured President.—J. WRIGHT.

TEA AND NOISETTE ROSES.

It is seldom that even the most critical reader can take exception to the opinions of the “HEREFORDSHIRE INCUMBENT” in his remarks about Roses; yet I, as a tyro in Rose-growing, was struck with wonder at one or two of his remarks that recently appeared in the Journal. Surely the “HEREFORDSHIRE INCUMBENT” has grown Bouquet d'Or, which is, unless I am mistaken, a seedling from Gloire de Dijon. Is it possible that this lovely Rose does not open with him? My short experience, too, of the two Roses, President and Perle de Lyon, is just the reverse of his. I have grown both Roses in the Weald of Kent clay and in my present garden of light gravelly soil, and yet in both gardens President has shown himself a weak grower, while Perle de Lyon has been very robust. I may say that I have seen the latter in a very light

soil in Yorkshire equally robust. *Souvenir de Monsieur Peron* I do not know, but *Souvenir de Paul Neyron* is a cherished friend of mine. I shall be much interested to know if my experience of these Roses is singular.—KENTISH CURATE.

CHRYSANTHEMUM SHOWS.

SOME shows that we are able to record this week demonstrate how extensively and well the Chrysanthemum is cultivated by those who give special attention to that flower; and the crowds of visitors who attend the exhibitions afford ample evidence that the shows are admired, and that the skill of the cultivators is appreciated. First in order of date comes

WALTON.

The district of this Show embraces the parishes of Walton, Weybridge, Oatlands, and Hersham, a district remarkable for its attractive woodland scenery and salubrity, and hence contains the residences of many gentlemen who have good gardens and employ skilled gardeners. That they can grow Chrysanthemums is evident, for the Show held in the Oatlands schoolroom on the 14th inst. was a splendid one. We have seen better plants of the large-flowered varieties and better incurred blooms, but seldom, if ever, saw such well-grown standards, and never saw Pompons equal to a few of the plants staged. The display of cut blooms of Japanese varieties was also excellent.

Large-flowering specimens.—The first prize (a silver watch in lieu of a cup) for six plants was won by a point by Mr. Ploughman, gardener to Mrs. Allen, Weybridge, with dwarf, healthy and well-bloomed specimens 3 feet in diameter. Mr. Polley, gardener to H. Rogers, Esq., Oatlands Park, was second, and Mr. Cornhill third. For four plants Mr. Burns, gardener to E. A. Rigg, Esq., was an excellent first. Mr. Rowman, gardener to J. J. Wilks, Esq., Oatlands; Mr. Millican, gardener to H. Corbett, Esq., Walton; and Mr. Boxall, gardener to T. H. Hickley, Esq., Walton, had the remaining prizes, all staging creditable specimens. The best plants in this section were of Chevalier Domage, Lady Hardinge, George Glenn, Master Forsyth, King of Denmark, General Brainbridge, Mrs. Dixon, and Hereward. Standards.—In the class for four plants Mr. Ploughman staged three magnificent specimens—Mrs. G. Rundle, G. Glenn, and Mrs. Dixon, the fourth plant being inferior. The three plants named had stems 3 feet high, the base of the heads being $3\frac{1}{2}$ feet in diameter, and were about 3 feet to the apex. They were not closely trained, but resembled trees rather than plants, each bearing upwards of two hundred fine blooms. They represented a new style of training—free, natural, and pleasing—and the Judges honoured the growers and themselves by awarding him the first prize. Mr. Cornhill, who was second, staged splendid, closely-trained, umbrella-headed specimens, fine in foliage and blooms. Messrs. Polley and Millican had the remaining prizes. For two plants Mr. Burns was first with Mrs. Dixon, a perfect model of close training with two hundred blooms, and G. Glenn fine; he was closely followed by Mr. Reynolds and Mr. Masters, gardener to F. Day, Esq., who had the remaining prizes. In the class for pyramids some sharp-pointed spires about 8 feet high were staged, the plants having a base of about 18 inches. The prizes went to Messrs. Polley, Reynolds, and Cornhill in the order named. Mr. Burns staged the best single specimens—Mrs. Dixon, a semi-globe $3\frac{1}{2}$ feet in diameter and admirably grown; so also were those of Messrs. Polley and Millican, who had the remaining prizes.

Pompons.—Mr. Polley won the first position for six plants (dwarfs), one of which, Maroon Model, resembling Bob but lighter, was about faultless; it was $4\frac{1}{2}$ feet in diameter—a plant of wonderful excellence in all points—flowers, foliage, and training. Mr. Cornhill was second, his Model of Perfection being most beautiful, and Mr. Masters third. For four plants Messrs. Reynolds and Boxall secured the prizes. In the single-specimen class Mr. Reynolds had the premier position with a grand plant of Mr. Astie (not easy to grow) $4\frac{1}{2}$ to 5 feet in diameter, and about a foot high; Mr. Polley was second with White Cedo Nulli, and Mr. Masters third with Aurora—a fine class. Standards.—Keen competition, the plants being both numerous and very fine. For four specimens the prizes went respectively to Messrs. Reynolds, Polley, Cornhill, and Ploughman, and for two plants to Messrs. Masters and Millican. The noteworthy varieties were Mdle Marthé, Rose d'Amour, Aigle d'Or, James Forsyth, Miss Nightingale, and Marie Stuart. Pyramids were not good. The special prizes given by the President of the Society, H. Corbett, Esq., for plants grafted with not less than two varieties, were won by Messrs. Ploughman, Polley, and Millican. A special note of the best plants will be found in another column. We have dwelt particularly on the plants exhibited because of their great excellence. The other sections of the Show we must pass through more rapidly.

Cut Blooms.—Messrs. Reynolds, Cornhill, and Masters secured the prizes for twenty-four blooms, and Messrs. Ploughman, Burns, and Boxall for twelve blooms, all staging creditable collections. The varieties best represented were Prince Alfred, Golden

Empress of India, Bronze and Yellow Jardin des Plantes, Queen of England, White and Golden Beverley, Lady Hardinge, St. Patrick, Cherub, Mrs. Dixon, Nil Desperandum, Countess of Derby, Alarm, Mr. Jay, Baron Beust, Barbara, and Alba Multiflora. Messrs. Cornhill, Reynolds, and Russell shared the honours for twelve reflexed varieties, the first-prize collection comprising Triomphe du Nord, Dr. Sharpe, Golden Christine, Mr. Forsyth, Gazelle, Mons. Lucien Barthiere, Chevalier Domage, Progne, Undine, Julie, Christine, and Sulphurea Superba. Japanese varieties constituted a grand feature of the Show, the collections being numerous and competition close. Messrs. Ploughman, Masters, and Cornhill secured the prizes for twenty-four blooms; Mr. Burns being very highly commended, and for twelve blooms the winners were Messrs. Reynolds, Boxall, and Russell. The finest blooms exhibited were of Baron de Prailly, Ne Plus Ultra, Gloire de Toulouse, Nuit d'Hiver, Dr. Masters, Grandiflora, Fulton, Bismarck, Elaine, Garnet, Fair Maid of Guernsey, Apollo, Red Dragon, Red Gauntlet, Yellow Dragon, The Cossack, The Daimio, Sultan, Fulgore, and La Nymph. Mr. Masters easily won chief honours for large-flowered Anemone varieties, and for small-flowered varieties (three in a truss and very beautiful), Messrs. Cornhill, Masters, and Reynolds were the prizetakers. The most attractive triplets were of Miss Nightingale, Antonius, Marie Stuart, Dick Turpin, Madame Montels, President Morel, Mr. Astie, Mrs. Wyness, Firefly, and Astrea. The same exhibitors secured the prizes for reflexed Pompons, the best being—of Whites, Mdle. Marthé, White Trevenna, and Marabout. Yellows, La Parnasse (primrose); Berol, good; and St. Michael, fine; Rose—Model of Perfection and Duraflet. Reds—Bob and Maroon Model. Orange—Aurora Borealis.

Special prizes were given for floral ornaments and bouquets of Chrysanthemums, Mr. Masters securing first honours in the gardeners' class, and Mrs. Townsend in the ladies' section; Fern fronds being largely incorporated in the winning examples. Special prizes were also given by H. A. Rigg, Esq., for twelve incurred blooms, which were won by Messrs. Burns, Cornhill, and Reynolds with excellent stands. The Show, a remarkably fine one, was admirably managed by Mr. Masters, the Secretary.

BRIXTON, STREATHAM, AND CLAPHAM.

On November 13th and 14th the ninth annual autumn meeting of this Society was held in the Tulse Hill Skating Rink, a place admirably adapted for arranging to advantage large collections of plants and flowers. The Show was superior to those of previous years; the cut blooms were of the same excellence, while the specimens were much better and numerously exhibited. Extensive collections of both fruit and vegetables, together with sufficient Ferns and other foliage plants to give relief to the cut blooms, added greatly to the effect of the Exhibition. The arrangements were very satisfactory as made and carried out by the zealous Secretary Mr. W. Hall.

For six large-flowering Chrysanthemums five collections were staged. Mr. W. Hall, gardener to W. Stevens, Esq., Springfield, was worthily awarded the first prize for plants beautifully flowered and trained. They were described on page 364. The varieties exhibited in this group were Mrs. Haliburton, Faust, Mr. Brunlees, Mrs. Dixon, Mrs. G. Rundle, and Lady Talfourd. Mr. Cherry, gardener to Max Slee, Esq., Lingham Court Road, was a very good second, exhibiting well-finished plants of Alma, Mr. G. Glenn, Mrs. Dixon, Mrs. G. Rundle, Venus, and Christine. Mr. Young, gardener to T. Hicks, Esq., was placed third, and an extra prize was awarded to Mr. Howes, gardener to Mrs. Bennett.

The class for six Pompons was not a good one, and the prizes were awarded to Mr. Cherry and Mr. Weston, gardener to D. Martineau, Esq., in the order named. Pyramid Pompons were particularly good, especially the first-prize collection from Mr. Hall. Mr. Howes and Mr. Livermore, gardener to F. Webb, Esq., were placed second and third respectively. In the class for standard Pompons Mr. Hall was again awarded premier honours for massively bloomed plants, Mr. Howes and Mr. Livermore following in the same order as in the class for pyramid Pompons.

For the single specimen Chrysanthemum Mr. Cherry won with an elegant plant of Julie Lagravère; Mr. Hall being awarded the second prize and Mr. Livermore the third.

Several collections of twenty-four cut blooms were staged, and the post of honour was awarded to Mr. Ottaway, gardener to T. Hepburn, Esq., for a very even collection, consisting of Queen of England, Empress of India, Golden Empress, Cherub, Fingal, Prince Alfred, Plenipo, John Salter, Princess of Wales, Golden Beverley, Rev. J. Dix, Beverley, Lady Hardinge, Nil Desperandum, Jardin des Plantes, Prince of Wales, White Globe, Mr. Brunlees, Mr. Gladstone, Lady Talfourd, White Venus, and Antonelli. Mr. Howes was awarded the second prize; Mr. Livermore and Mr. Holmes, gardener to G. Storey, Esq., equal thirds. Mr. Ottaway was also first in both the classes for twelve and six blooms, and for twelve large-flowering Anemones and twelve Anemone Pompons, the whole of which he staged in admirable condition. His collection of large-flowering Anemones comprised Empress, Gluck, Fleur de Marie, Margaret of Norway, Prince of Anemones, Louis Bonamy, Madame Godereau, and St. Margaret; while his Pom-

pons, which were another grand lot, consisted of Madame Montels' Perle, Mr. Astie, Rose Marguerite, Calliope, Antonius, Regulus Firefly, Dick Turpin, Marie Stuart, and Madame Chalonge. A splendid collection of twelve Japanese varieties came from Mr. Howes, and won the first prize. Particularly good were Grandiflora, Dr. Masters, Fair Maid of Guernsey, Comtesse de Beauregarde, Elaine, The Sultan, Garnet, Red Dragon, Cry Kung, Cossack, and Meg Merrilees.

The Ferns, fine-foliage plants, and Orchids were very creditable. Messrs. Hall, Staplehurst, Cherry, Hone, Wright, Young, and Keeler exhibited some very good collections. The dinner-table decorations were very pretty and chaste, especially the first, second, and third prize collections. Messrs. Crisp, Keeler, and Weston were awarded the prizes in the order named. Some splendid fruit were exhibited, particularly Apples and Pears, also several extensive collections of vegetables, which were of a very high degree of excellence. This was altogether a very fine Show and was numerously attended.

DARTFORD.

For several years past this Society has every autumn held the annual Exhibition in the Victoria Assembly Rooms under the superintendence of the energetic Secretary, Mr. W. Shelton. This year the Show was particularly good, but we missed from its ranks those stands of large and truly admirable blooms always exhibited by Mr. H. R. Hards, who has since the last annual meeting been called to his long home, and by his death the Society has lost their strongest and best amateur friend, and one whose collections never failed to obtain the premier prize. Notwithstanding the want of these superb collections there were vast numbers of cut blooms, also specimen and other plants. Mr. Dancer, gardener to S. Mart, Esq., was very successful amongst the specimen plants, which are by his skill beautifully finished. Mr. Pendred was a very successful exhibitor of cut blooms both of the incurved and Japanese varieties. As we have already named most of the varieties in other reports it is not necessary to repeat them. Mr. Carter, gardener to W. White, Esq., and Mr. Dancer were amongst the other chief prizetakers for cut blooms in the professional classes; while Mr. Evitt, an amateur, exhibited some superb collections. We were pleased to see that several cottagers also exhibited.

The collections of fruit from Mr. Clifford White were splendid. Messrs. Carter and Dancer also contributed good collections, which were very much admired. The Grapes which were staged by Mr. Green, gardener to R. S. Dunbar, Esq., were well finished and much praised.

Several other exhibits call for special mention, but our space forbids. Mr. Shelton and the Dartford Chrysanthemum enthusiasts are to be congratulated on their successful meeting.

CROYDON.

This is only the second season of this meeting, and we were very pleased to find a great improvement both in the training of the specimens and in the quality and quantity of the cut blooms over last year. There was not a very strong competition among the plants, but those exhibited by Mr. Brett, Mitcham, were very well finished and evenly trained. Mr. Brett also carried off all the first prizes, with the exception of one class in cut blooms. This exhibitor must have a most extensive stock to be able to produce so many perfect flowers. Messrs. Orchard and Fewell were other successful exhibitors of cut blooms. Mr. Brett's collections of twelve Japanese varieties and twelve distinct varieties of large-flowering Anemones were very fine indeed. The latter consisted of large and well-finished plants of Fleur de Marie, Gluck, George Sand, Madame Godereau, St. Margaret, Prince of Anemones, Louis Bonamy, Acquisition, King of Anemones, Lady Margaret, Mrs. Pethers, and Empress; while his Japanese collection comprised The Daimio, Sarnia, Comtesse de Beauregard, Fair Maid of Guernsey, Grandiflora, Magnus Bonum, Bismarck, Gloire de Toulouse, La Nymph, Red Gauntlet, Elaine, and Dr. Masters. Mr. Orchard was placed second in both of these classes. A few very creditable plants were exhibited by Mr. Podger, a shoemaker by trade, the plants being bloomed in his workshop, and the first prize for twelve blooms (amateurs) was awarded to Mr. Reed.

Fruit was excellently represented by Mr. Chaff, gardener to C. H. Goshen, Esq., Shirley, who was awarded the first prize for Black Grapes, Apples, and Pears. Mr. Chaff also received the first prize for an excellent collection of vegetables. That the Show was a great improvement on last year no one will doubt, and great praise is due to Mr. A. C. Rofey, the Secretary, and his hard-worked Committee, for bringing together such an autumn display.

WESTMINSTER AQUARIUM.

The Borough of Hackney Chrysanthemum Society held in the above building on the 19th and 20th inst. perhaps the finest Show of the season. The entries for cut blooms were very numerous, and with very few exceptions the blooms were of a very high quality. The Japanese blooms were shown in greater numbers than we have ever seen before, and the grotesque and brilliant

blooms were greatly admired. The plants exhibited were of the very best, but the competition here was not so keen as among the cut flowers. The arrangements of placing the specimens, &c., were ably carried out under the superintendence of Mr. Holmes, but the "secret" plan adopted of judging is as unnecessary as it is perplexing to those whose time is valuable. It is utterly impossible to take a correct report of any exhibition when the visitors are admitted, and that in a space of only a few feet for a passage. Our reporter was present for nearly three hours before the cards with the exhibitors' names were placed before the exhibits.

For the best collection of ten Chrysanthemums in 1½-inch pots a first prize of a silver cup valued five guineas, offered by the Royal Aquarium Company, was worthily awarded to Mr. Hall, gardener to W. Stevens, Esq., Springfield, Tulse Hill, for several of the same magnificent plants as were exhibited at the Brixton and Streatham Horticultural Society last week, and consisted of Mrs. Haliburton, magnificent; Golden George Glenny, perfection; Lady Talfourd, very good; Mrs. G. Rundle, Faust, Mr. Brunlees; and Pompons Bob, Mdlle. Marthé, Calliope, and Antonius. Mr. J. Levesley, Isleworth, was awarded the second prize with slightly larger plants of Lady Hardinge, Mrs. G. Rundle, Bronze Jardin des Plantes, very good; Julie Lagravere, Mdlle. Marthé, Mrs. Dixon, Hero of Stoke Newington, and the brilliant-coloured *Odonatum purpureum*—a good collection, but not so beautifully and symmetrically trained, besides falling a little short of the quality of the first-prize collection. Mr. J. Holmes, gardener to J. Hicks, Esq., Manor Lodge, Upper Clapton, was placed third. In the class for six plants, the same size pots, Mr. G. Drain was the only competitor, and was awarded the first prize for plants large and well trained, but wanting in finish of flower. Mr. Drain and Mr. Hall were placed equal first for good collections. Mr. Bengar, gardener to T. G. Fletcher, Esq., was placed third for four large-flowering standards; and Mr. Pricknell, gardener to Mr. Bowerbank, Stoke Newington Green, second.

For six Pompons in 8½-inch pots the first prize and silver cup were awarded to Mr. J. Levesley, Isleworth, for a very beautiful collection, the colours very bright and the plants well flowered. This collection consisted of Antonius, Cendrillon, Prince Victor, St. Michael, La Parnasse, and a well-flowered plant of Bob. Mr. W. Hall is a very good second with grandly flowered pyramids of White Cedo Nulli, Antonius, Golden Cedo Nulli, Mdlle. Marthé, Mrs. Holt, and St. Thais. Mr. Henderson was placed third. Mr. C. Bengar, gardener to T. G. Fletcher, Esq., Upper Clapton, secured the first prize for four standard Pompons with Silver Cedo Nulli, Bob, White Cedo Nulli, and Antonius. Mr. J. Holmes was placed second, and Mr. Prickett third.

Fine-foliage plants were exhibited by Mr. Pricknell and Mr. Bradley, who were first and second respectively. Mr. Gilbey, gardener to C. Miller, Esq., secured the first prize for table plants; Mr. Jordan, gardener to J. Boustead, Esq., Wimbledon, was placed second for a very neat and elegant six; and Mr. Bradley third for a very pretty collection.

Nine classes were set apart for incurved blooms for twenty-four, twelve, and six. Three classes were open to nurserymen and gardeners residing in the boroughs of Hackney or Finsbury only, a similar number for amateurs in the same locality, and three classes open to all comers. The first prize for twenty-four in class 10 was awarded to Mr. J. Holmes, gardener to J. Hicks, Esq., Manor Lodge, Upper Clapton, for a very even stand, having good blooms of John Salter, White Beverley, Golden John Salter, Princess of Wales, Queen of England, Jardin des Plantes, Mr. Brunlees, Empress of India, Lady Hardinge, Eve, Rev. J. Dix, Golden G. Glenny, Venus, White Venus, Mrs. Heeles, Golden Eagle, Barbara, Mrs. G. Rundle, Hero of Stoke Newington, Isabella Bott, Lady Slade, Prince of Wales, Princess Teck, and Cherub. Mr. W. Holmes, Frampton Park Nursery, was placed second for a collection somewhat larger but a little past their best; Mr. G. Drain secured the third prize. For twelve blooms in the same division Mr. G. Langdon, gardener to Drs. Munro & Adams, Brook House, Clapton, was a very good first with Mr. Brunlees, Empress of India, John Salter, Miss Thurya, Prince Alfred, Princess of Wales, Barbara, White Venus, Nil Desperandum, Golden Beverley, Princess Beatrice, and Mrs. Haliburton. Mr. Bengar was second, and Mr. Holmes third, all exhibiting well. Mr. Bengar was first in the class for six, exhibiting John Salter, Princess Teck, Mrs. Heales, Rev. J. Dix, Barbara, and Lady Hardinge. Mr. J. Holmes second, and Mr. G. Langdon third. Mr. C. Butters was first for twenty-four blooms (amateurs) with a very creditable collection, and also first in the class for twelve blooms. Mr. T. J. Godwin secured the second place. Nine collections were staged in the open class of twenty-four, and Mr. E. Sanderson, Willesden, was awarded the first prize and the silver cup as the best twenty-four blooms in the Exhibition. They were all neat and of good size, consisting of Prince Alfred, Queen of England, Venus, G. Glenny, Nil Desperandum, Mrs. Heales, Lady Hardinge, Princess Teck, Golden Eagle, Mrs. Rundle, St. Patrick, Cherub, White Globe, Enamel, Princess Beatrice, Aurea Multiflora, Prince of Wales, Mr. Brunlees, Barbara, White Venus, Duchess of Wellington, Eve, John Salter, and Princess of Wales. Mr. E. Berry, Roehampton, was

awarded the second honours; and Mr. Wildman, Southampton Street, Camberwell, the third; Mr. Hillier, Wandsworth, fourth.

There were twenty competitors in the open class for twelve blooms, and Mr. Sanderson again secured the first prize and silver cup for a magnificent collection of Venus, Barbara, Lady Hardinge, St. Patrick, Eve, Nil Desperandum, Princess Teck, Cherub, Mr. Brunles, Mrs. Heales, Prince Alfred, and Princess of Wales. Mr. G. Pocock, Fairlawn, Wimbledon, was placed second; Mr. G. Ottaway, gardener to J. Hepburn, Esq., third; and Mr. Mease, gardener to C. W. Newman, Esq., Wyncote, Liverpool, fourth with a collection of very large blooms, somewhat rough, and hideously set up with ornamental papers underneath each flower. This collection certainly exhibited extraordinary cultivation, but did not possess that attractive neatness we are accustomed to see in the metropolitan shows. There were about twenty competitors for six cut blooms (open) and the premier prize again fell to Mr. Sanderson. Messrs. Charlton, Pocock, and Reeve were second, third, and fourth respectively. Mr. Hillier was first with a good stand of twelve Anemones.

JAPANESE.—These were a very grand lot extensively shown, the majority of them were of most excellent cultivation. There were several collections staged for twelve blooms in not less than six varieties. Mr. Himell, gardener to F. Davis, Esq., Anglesea House, Surbiton, gained the first prize with a very highly cultivated collection, amongst which we noted The Daimio, Chang, Bronze Dragon, Fair Maid of Guernsey, Jane Salter, The Sultan, Red Indian, James Salter, and The Cossack. Mr. Jordan was a very good second, and Mr. Berry, Roehampton, third. For twelve distinct varieties to include Red Gauntlet, Sarmia, Ethel, and Peter the Great, for which a silver cup was offered by Messrs. Dixon & Co., there were eight competitors, two collections of which were so evenly matched that the Judges had some little difficulty in deciding. Eventually the cup was awarded to Mr. Jordan for a most magnificent stand. Fair Maid of Guernsey, Grandiflorum, Striatum, Baronne de Prailly, quite 9 inches across; Gloire de Toulouse, Yellow Dragon (excellent), Red Dragon, Fulgore, and the four named. Mr. Starling and Mr. Hillier exhibited good stands, and Mr. Starling was worthily awarded an extra prize. Mr. Jordan's was decidedly the freshest collection. Messrs. Dickson & Co. exhibited an extensive collection and received an extra prize; so also did Messrs. E. G. Henderson and Son, who were awarded certificates for M. Delaux, Nuit d'Automne, Père Delaux, and Rosa Bonheur, all very promising Japanese varieties.

GLOUCESTERSHIRE ROOT, FRUIT, AND GRAIN SHOW.

THE sixteenth annual Exhibition of this highly popular and well-managed Society, offering a prize list of £150, was held on November 9th, and may justly be described, in spite of two most disheartening fruit seasons, as a great success.

The roots, grain, and kindred products were exhibited in a tent having a passage into a large room of the Spread Eagle Hotel, which was entirely devoted to a really fine display of Apples and Pears. It was with the latter that the writer is concerned, as the short time the train allowed him precluded his inspecting what from a mere passing glance he could see was a most interesting display, especially of Potatoes.

As usual at these exhibitions the Apples are divided into three classes—dessert, culinary, and cider, special classes being reserved for varieties of local or world-wide celebrity. Pre-eminently among the former stands out as a prime favourite the Ashmead Kernel as a dessert fruit, a variety the public generally will allow to be unequalled in flavour in its proper season—after Christmas; indeed, so popular does this Apple linger in the recollections of the good citizens of Gloucester that until very lately the trunk of the original tree, which succumbed to its destiny about fourteen years ago, has been kept in a cellar and worked up into small articles to enshrine its memory. There were ten entries against seventeen last year; still the competition was very spirited, and the prizes awarded to healthy clean-grown specimens. The writer did not notice in a single plate the sometimes very distinct flush of crimson on the sunny side, as is the case occasionally when grown in the soil of Herefordshire. Mr. Phelps of Tibberton and Mr. Cadle of Longcroft were the winners in this class.

The special class for Ribston Pippin was numerously competed for, and both prizes taken by admirable collections, though the same can hardly be said for Nonpareils, which were exhibited poorly both in quality and quantity.

As far as the number of plates, and beauty, size, and healthful appearance of the Brandy or Golden Harvey Apple is concerned, this class left nothing to be desired, but at the risk of chronicling what many will consider rank heresy, the writer does not consider either one of the collections shown to be the true old historic Apple of this name! It is far too large, not the right shape or colour, and certainly deficient in the exquisite "cognac" flavour to which perhaps this Apple owes its name more than to its high specific gravity. At any rate, the Golden Harvey of Herefordshire, the chief habitat of this Apple in the seventeenth

century, is quite different, and it will be interesting if the question now raised does not end here. A great feature in the Exhibition were the large collections of dessert Apples, for which there were twenty-three entries, but two only put in an appearance. Is it possible that the correct standard of the orthodox size for dessert fruit may not in the case of this collection have been strained a wee bit too far? as it seemed to the writer that many of the varieties exhibited were far too undersized to be characteristic specimens.

In the class open to tenant farmers for dessert fruit there was only one exhibitor, Mr. H. Organ Breadstone, but his was a collection in itself, numbering nearly seventy varieties, though including somewhat incongruously both culinary and cider Apples. Most specimens were marked unknown. Of those named several were purely local. A variety marked the Brumage (Birmingham) Pippin came in for a great share of attention, showing, identically alike in all six specimens, two Golden Pippins united together through their ovaries, presenting two perfect eyes and one stalk, with an elongated potato-shaped superficial appearance. The first prize was carried off by Messrs. Wheeler, the well-known seedsmen of Gloucester; the second prize by Earl Ducie of Tortworth Park.

In the first-prize collection there were very characteristic specimens of Court of Wick, Court Pendu Plat, Sturmer Pippin, and Lamb Abbey Pearmain. All the varieties were named in both collections; Adams' Pearmain, doubtless inadvertently, alone being an exception. Calville Blanche was shown green and miserable, quite a burlesque on that waxy and healthy-looking Apple so generally seen and admired in Paris. By-the-by, why does this eminent firm, who know how to do the right thing so well, fall into the vulgar habit (fashionable at Apple stalls) of French polishing, without any respect of variety, the whole surface of each of their Apples? In the second collection chiefly to be noticed were Duke of Devonshire, Bess Pool (true), Claygate Pearmain, and Ribston Pippin. The Blenheim Pippin—a great favourite at Gloucester, as indeed everywhere else—was well shown, though not particularly highly coloured, and had a special class assigned to it. Mr. Phelps carrying off the first and Mr. Mayo second prize. Warner's King and Mère de Ménage were grandly exhibited in the culinary class, excluding Blenheims. A plate of the old historic Costard was very much admired, and would have well deserved an extra prize. In this class, open to tenant farmers, the nomenclature was bad, nearly every variety being either marked wrongly, notably the Cat's-head, or "unknown." A highly coloured Apple—no doubt local, aptly named Port-wine—was worthy of notice. F. B. Littlewood, Esq., carried off first prize for dessert Apples, single plate, with fine specimens of Cox's Orange Pippin; Mr. J. Chadborn second prize with Dutch Mignonne, the specimens being far above the usual size for dessert. The best new variety of dessert Apple went to Earl Ducie with an Apple after Royal Pearmain, and of a somewhat similar but higher flavour, and more compact shape.

The first prize for the collection of culinary Apples was also credited to the Tortworth orchards, and very clean grown and large the specimens were, especially Waltham Abbey Seedling (Golden Noble), Erabant Bellefeur, and Golden Russet. That favourite variety Cellini (perhaps too late in the season) was not in good condition. Gloria Mundi also was small, and certainly did not earn its synonym of the Monstrous Pippin. A large useful-looking Apple named Greaves' Pippin was unknown to the writer, and looked a very long keeper. B. St. John Ackers, Esq., took second prize with a much smaller collection, but of great excellence, in which that beautiful and useful variety Golden Winter Pearmain was superbly shown.

Pears did not muster in great force. The prizes for collections of dessert Pears were taken by J. B. Littlewood, Esq., with fine specimens, among others, of Beurré Diel, Colmar d'Aremberg, Marie Louise, and Chaumontel. Andrew Knight's varieties (Monarch, Rouse Lench, and Broom Park) were well represented. That fine Pear Duchesse d'Angoulême was poorly shown, while Doyenné du Comice, perhaps the best Pear we have, was strangely absent from so good a collection. Specially worthy of notice were Winter Nelis, Beurré Duhamel, Joséphine de Malines, and Beurré Superfin. Alexandre Lambre looked well, but although fashionable is third-rate in both flesh and flavour, and unworthy of a place in a first-class collection. It only remains to state that G. Deane, Esq., took first prize with Marie Louise (single plate), and second prize fell to Glou Morceau. Time failed to get more than a glimpse at the cider and Pear collections. The fruit seemed far larger than in Herefordshire, as might have been expected from growing in a better soil and less exposed situation. Interesting also it was to notice so many historic varieties both of Apples and Pears.—THE HEREFORDSHIRE INCUMBENT.

WORK FOR THE WEEK.

KITCHEN GARDEN.

GLOBE ARTICHOKEs that were cleared of the old leaves and cleaned will have made some growth and become hardened. Snails and slugs, especially in wet soils, are often troublesome, doing much mischief by preying upon the tender leaf stems

beneath the soil. It is a capital plan to take a little soil out around each stool and give a sprinkling of quicklime, and then fill up with ashes around each plant, about a foot in width all round and 3 or 4 inches thick, which we find the best preventive of slugs. The space between the rows and plants may be covered with litter up to the stools 4 to 6 inches thick, for though this vegetable is hardy, and in light soils will do without protection, yet the less the plants feel of the winter the earlier they will produce heads the following season. Late-sown Turnips should be looked over, and those large enough should be pulled up and stored in sand for immediate use. By removing these the remainder of the crop will be benefited, coming in for later use, or for greens in spring if required. Leeks in trenches should be earthed up; those on the flat may also be blanched by ashes, &c. No opportunity should be lost in having all vacant ground manured, dug, or trenched as will be necessary. The beneficial effects of fully exposing the soil to the ameliorating influence of natural agencies cannot be too highly estimated, especially where the soil is of a heavy adhesive character. Such soils should be placed in ridges in the roughest manner possible, so as to expose as much of it as possible to the influence of the atmosphere, and light soils must also be turned as a means of destroying grubs and slugs.

Mushroom House.—Maintain a temperature of 55° min. and 60° max., and a moist atmosphere, keeping also the surface of the beds coming into bearing moist; but do so without watering over the Mushrooms, even in the button state, and avoid anything approaching to a sodden state of the soil, rather erring on the side of dryness. Collect material for fresh beds, and make them up before it has become dried and spent by heating violently.

Forcing Department.—In order to produce a regular and liberal supply of forced vegetables the operations requisite must be prompt. A commencement must be at once made with Asparagus, Seakale, and Rhubarb. Strong well-developed crowns, and such as have matured early, should be chosen for this early work, as they will break freely, and the produce will be correspondingly satisfactory. Both Asparagus and Seakale early in the season do better when subjected to the stimulating influence of heat arising from fermenting materials than is obtained by any other means. If there is the convenience of hot-water pipes for top heat it will admit of air being admitted to the Asparagus, without which the produce is flavourless. The various modes of forcing the crops named have recently been detailed in the Journal. Chicory being in request for salading, roots should be introduced into the Mushroom house at intervals so as to keep up a supply, placing them in soil up to the crowns, or the roots may be potted. Endive may also be introduced into the same house for blanching. That in frames and pits will need air upon all favourable occasions, keeping it safe from frost by protection in severe weather, and having a portion tied up as required to ensure a supply of blanched heads. French Beans should be sown in pots at intervals, to maintain if possible an unbroken supply. If Potatoes are wanted early early-lifted sets should be placed in leaf soil or spent tan covered about an inch deep, where there is gentle warmth: 55° is ample. When they are sprouted an inch or so they may be transferred to pots or pits. Maintain a supply of Mustard and Cress by sowings at intervals corresponding to the demand. Cauliflowers, Lettuces, Radishes, and Parsley in frames or under handlights expose fully when the external temperature is over 35°, ventilating freely whenever the weather is favourable, removing any decayed leaves, and stirring the soil about the plants occasionally. If slugs are troublesome dust with quicklime or soot.

FRUIT HOUSES.

Vines.—Heavy falls of snow in some parts and rainfall in others have completely saturated the soil and atmosphere, causing Grapes to damp considerably—Hamburgs particularly, which as a rule were badly coloured this year, and those are not keeping well; but as the leaves are now off one of the great causes of Grapes not keeping well is removed. Slight fires will be required to be kept on constantly to maintain an equable temperature, but this must not be high or it will cause the berries to shrivel prematurely, 50° not being exceeded by artificial means, ventilating freely and early in bright weather so as to prevent moisture being condensed by the berries. The outside borders will have been protected from rains and snow by shutters or other material long ago, and if inside borders too are covered with straw (which if done neatly is not objectionable) the Grapes will keep better—or mats will answer. Covering the border prevents its cracking and prevents moisture arising likely to prove injurious. Vines from which the fruit is cut should at once be pruned, &c., as advised in former calendars, and though the houses may be employed for wintering plants it is advisable to keep them cool, admitting air abundantly in all but very severe weather, a few degrees of frost doing no harm to the Vines, but insuring more complete rest. If plants must be kept in the houses do not exceed 40° by artificial means. Turn over the litter in early houses frequently, replenishing it as the heat declines by working-in fresh manure. Outside borders will need to be covered with long litter and have fresh material added as may be required to maintain a genial warmth. The earliest-started Vines will now be showing signs of growth, so that the

temperature may be slightly increased to 55° min., 65° max. by fire heat, with 10° more from sun heat, proportionately increasing the atmospheric moisture. The ventilation will require to be very moderate, and what is given should be at the top of the house; if side ventilation be employed the cold air should be made to pass the heating surface so as to become warmed, as cold currents of air are extremely pernicious.

Strawberries in Pots.—One of the greatest errors in growing Strawberries in pots is the placing of them in Peach and other houses with open ventilators, where from the piercing currents of air evaporation is constant and excessive, which only wastes the energies of the plants, and not infrequently destroys the roots at the sides of the pots. All plants for early forcing should be in frames, with a view to protect them from heavy rains only; those for late forcing are just as well plunged in ashes in a sheltered situation as anywhere, having a light covering of bracken or straw in severe weather. Drought is the great bane of the Strawberry, therefore those in frames or pits must not be neglected for water, the soil always being kept moist. A batch of Black Prince, Vicomtesse Héricart de Thury, and La Grosse Sucrée should be held in readiness for placing in the early Peach house, to which fire heat will be applied early in next month. It is advisable to make up a bed of leaves about 2 feet in height, and place the plants in a frame upon it, packing the spaces between the pots with damp leaves. The bottom heat at the base of the pots ought not to exceed 65°; 60° is more safe, the top being kept cool, 50° not being exceeded, and when mild draw off the lights. This will tend to promote activity at the roots and to push the crowns. After three weeks to a month of this treatment the pots must be raised if the bed still be warm, so as to inure the plants to bear the temperature of the Peach house without check, as would be the case were they taken from a warm bed direct to the shelves. Plants for placing in vineries to be started next month require similar treatment. We place the pots upon reversed turves about 1 to 1½ inch thick; but this is not essential, though we think advantageous in securing more uniform moisture to the roots. Those having the convenience of a house for forcing Strawberries will find considerable advantage in starting the plants in bottom heat as before advised, and if a pit be employed having means of artificial heat, so as to maintain the top heat at 50° in severe weather, keeping them in it until the trusses are pushing clear of the crowns before removing to their fruiting quarters. Time will not only be gained but the result will be more satisfactory, another batch of plants being forwarded in the pit to take the place of the first as they have fruited. If worms have gained access to the pots they should be expelled with lime water.

PLANT HOUSES.

Greenhouse.—Water should gradually be withheld from Fuchsias which have ceased flowering, and when they have shed most of their leaves the plants may be wintered in a shed or other place from which frost is excluded. It is a good plan to plunge the pots in ashes or other material so as to prevent the soil becoming too dry, it requiring to be just moist enough to keep the wood from shrivelling, yet too much moisture is injurious. Young plants struck in late summer and potted off should be kept on shelves near the glass, repotting as required. Keep show Pelargoniums near the glass, and as dry at the roots as can be done without flagging, also keeping the plants cool and well ventilated. Zonal Pelargoniums specially prepared for winter flowering should be placed in a temperature of about 50°, for though the flowers come more quickly in a higher temperature they are not nearly so durable. If the plants are in small pots do not shift them into larger, but feed them with weak liquid manure. Primulas should be kept near the glass, and if the temperature be kept at about 50° they will flower more satisfactorily and be less subject to damp than in a lower temperature. Cyclamens will be throwing up their flowers, and should be kept near the glass, and have a temperature of 50°. This applies not only to those showing bloom, but to successional plants and seedlings. Carnations for producing flowers in succession through the winter must have plenty of light and a temperature of 50° by artificial means; Mignonette must also have light, or the spikes will be puny. Keep the growths neatly tied out, avoiding the bundling system.

Hardwooded plants are at this season much subject to mildew; any that are infested with it should be dusted with flowers of sulphur, but it must be kept from the roots, where it would prove injurious if not fatal. These plants can hardly have too much air, provided they are not subjected to violent currents and cold dry cutting winds, yet no more artificial heat should be given than to keep them safe from frost.

TRADE CATALOGUES RECEIVED.

James Dickson & Sons, Newton Nurseries, Chester.—*Catalogue of Forest Trees, Shrubs, Evergreens, &c.*

Galloway & Graham, 188, Queen Street, Glasgow.—*Catalogue of Roses and other Nursery Stock.*

Kelway & Son, Royal Nurseries, Langport, Somerset.—*Retail Catalogue of Gladioluses.*

W. Cauldwell, The Ives, Wantage.—*List of Select Roses.*

Francis & Arthur Dickson & Sons, The Upton Nurseries, Chester.—*Catalogues of Select Fruit, Forest, and Ornamental Trees.*

Robert Cragg, Rose Nurseries, Car Colston, Notts.—*Descriptive Catalogue of Roses, Pansies, Fuchsias, &c.*

Lawson Seed & Nursery Company, Edinburgh.—*Catalogue of Trees and Shrubs.*

H. & F. Sharpe, Wisbeach.—*List of Seed Potatoes.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

AERATING FLOWER POT (E. H. Clark).—We are informed this proves successful. Opinions from gardeners should be obtained, and if favourable advertised.

PRIMULA SINENSIS (W. Minshall, Dingle).—The specimen you sent is one of those curious sports that are met with in the Primrose. It is frequent in the common Polyanthus, and is distinguished by the old name of "Jackanapes on Horseback." It is not at all common in the Chinese Primrose.

STOCKS FOR APPLES (R. D.).—Both the English and French Paradise stocks are employed. The latter is the dwarfier and most generally adopted, but both induce early fruitfulness.

USE OF LATIN (Lincolnshire Vicar).—All knowledge is useful, but we do not consider that the boy destined to be a gardener need know Latin "grammatically and thoroughly." The Latin dictionary and the "Cottage Gardeners' Dictionary" would suffice.

CINERARIAS GRUB-EATEN (F. E. P.).—If the plants have not pushed up flower stalks you may yet save them and turn them to account by shaking all the soil off the roots and replotting in fresh sound soil, and when well established in it give weak liquid manure regularly.

MARÉCHAL NIEL ROSE (Hebe).—Keep your Maréchal Niel in the greenhouse from the present time, and as it is somewhat weakly clear sheep-dung water would do it much good. You can scarcely expect good flowers by Easter from such a plant. The side shoots of a Cabbage stalk that had borne a good heart would yield good seed. There was no seed in your letter.

TUBEROUS-ROOTED BEGONIAS (Sussex).—Tuberous-rooted Begonias will not only answer in a hot sunny aspect under a wall, but may be planted out in June in any of your flower beds just like ordinary bedding plants. They require a light, rich, sandy soil, and are worthy of it, forming as they do most charming masses of foliage and blossom. It is not advisable to leave the tubers out during the winter.

YUCCAS NOT THRIVING (Idem).—There is something wrong with the soil. Take up the sickly plant and replant in a well-drained station of deep rich soil. Yuccas answer admirably in Sussex, small plants growing quickly to a large size and becoming very ornamental.

POLYANTHUSES (William Hand).—If you write to Mr. Charles Turner of Slough he will, no doubt, be able to supply you with plants of show Polyanthus.

LAYERING MAGNOLIA GRANDIFLORA (W. C.).—The shoots may be pegged firmly in the soil now, but two years will probably elapse before they are rooted sufficiently for removal.

PLANTING TULIPS (John Leland).—The present is a good time for planting the bulbs. They require deep, rich, well-pulverised soil, and a dry subsoil. They should be planted about 5 inches apart in rows 9 inches asunder, and be covered 2 inches deep with fine soil.

PLANTING RASPBERRIES (H. F. C.).—We plant three canes to form each stool, as the plantation is rendered more certain and is in profit sooner than when one cane only is planted. There should be no trouble by suckers. Good gardeners thin out superfluous growths so as insure the proper number of strong well-matured canes for fruiting.

BONES FOR VINE BORDER (Jacko).—We do not approve of burying the flesh of animals in Vine borders. Boiled bones by being more rapid in their action we consider preferable to fresh bones, although the latter may be more lasting, the fat which the bones contain retarding the decomposition of the gelatine.

SEEDS FROM TASMANIA (E. R. P.).—All the seeds you name may be sown in March in a slightly heated frame or greenhouse, the soil to be kept constantly moist and partially shaded until the seedlings appear. They must then have abundance of light and sufficient air to keep them sturdy, potting the plants singly when they are large enough to be handled, keeping them close until established, then gradually inure them to light and air, of which they cannot have too much during the summer.

PRUNING VINES (E. G.).—You may prune your Vines at once, and as they have been so much infested with thrips wash the rods thoroughly with a strong solution of Gishurst or soft soap, a strength of 6 to 8 ozs. of soap to a gallon of water will not be too much. Then turn the Vines outside, protecting them with hay only during severe weather. A few degrees of frost will not injure them. The woodwork of the house should also be thoroughly washed with strong soapy water, and the glass with clear water previously to filling it with plants, the walls also being cleansed and lime-washed if that is suitable. A few days of labour devoted to that work will be well and profitably applied; indeed if you do not cleanse the house completely now you will next year have the same trouble with thrips that you have recently experienced, and the insects if not checked will ruin your Vines. The temperature you name is suitable for the plants, but would be too high for the Vines, therefore turn them out as you propose.

SHADING A CONSERVATORY (T. E. C.).—The mixture termed "summer cloud," introduced last summer by Mr. H. Elliott, seedsman, Braywick, Maidenhead, Berks, is an admirable substitute for the old-fashioned blinds. It is applied to the glass in the form of paint, costing about a penny a square yard. It can be had either of a grey or green colour, and is easily removed in autumn.

CYCLAMENS NOT PRODUCING LEAVES (Idem).—This denotes debility induced either by an undue amount of forcing during the season of growth,

or a system of starvation in summer. They do not like hard forcing, nor is it required, the temperature of an intermediate house of 50° being ample, and liquid manure should always be given throughout the flowering period. Both flowers and leaves will decay at the base if water is poured on the top of the corm. Let, therefore, the top of the corm be always raised slightly above the surface of the soil, and take care not to wet it. Old corms often fail to produce good foliage.

VINES INFESTED WITH MEALY BUG (W. M.).—Prune the Vines as early as possible, remove all loose bark from the stem, and well scrub the rods with a strong decoction of Gishurst compound, 8 ozs. to a gallon of water, taking especial care to work it well into every opening in the bark; also have all the interior woodwork scrubbed with hot soapsuds, and the brickwork whitewashed with fresh slacked lime.

TOBACCO LEAVES FOR FUMIGATING (Idem).—Tie the full-grown leaves in small bunches and suspend them to dry in any available shed—a stoker's should be used at this late period of the year. After they become quite dry suspend them in any shed having no fire and they will soon become limp, and should be laid closely together in a heap to induce a slight fermentation, and as soon as this takes place shake them out loosely, let them remain so for a day, and then put them close together in a box or drawer till required for use. Mushrooms can be grown throughout the winter in a brick pit without fire heat provided you exclude frost. The "Garden Manual," 1s. 9d. post free, contains instructions for growing Mushrooms.

MULBERRY CASTING FRUIT (A. B.).—This chiefly arises from dryness at the roots, the soil being dry and shallow. In that case a few good waterings during drought in summer would probably be effectual; but the fruit also drops before it is ripe in soils that are heavy and wet. The cure in that case is improved drainage.

CAPE CHERRY TREATMENT (Idem).—The seeds you have received under that name are possibly the Cape Gooseberry (*Physalis edulis*). The seeds may be sown in March in light rich soil in pots, placing in a hotbed, potted off when large enough to handle, and when well established removing to a greenhouse, shifting into larger pots as required. The shoots may be tied to a trellis or other support, or be planted out in a border in the house where it can have plenty of light and air, and being duly supplied with water it will fruit freely in autumn and winter. Light loam with a little leaf soil or well-rotted manure will grow it well. Or if they are the Winter Cherry (*Physalis Alkekengi*), the plants may when hardened be planted in the open air in June.

PRESERVING BULBS FROM MICE (Idem).—We have had no experience of coating bulbs with linseed oil and red lead, but we know that Peas thus dressed are rendered tolerably safe from mice. A good covering of sharp coal ashes will often preserve bulbs from mice. The real remedy, however, is to trap the vermin.

LIQUID MANURE FOR VINE BORDER (S. S.).—The Vines being weak give the border a good watering when the Vines are being started into growth, using guano water at a temperature of 90°, 1 lb. of guano to twenty gallons of water. Nine gallons per square yard will equal a rainfall of 2 inches; but half that quantity will be sufficient to apply to outside borders so early in the season, covering the surface with dry litter after the watering so as to retain the heat. When the Grapes are set and fairly growing another good watering should be given the border, and again when they show indications of ripening, using the liquid manure in a tepid state, yet not exceeding 90°, and in double quantity to the first watering, or nine gallons per square yard. No injury will be done provided the drainage is good. Allow as much foliage on the Vines as can be fully exposed to light.

SHRUBS FOR BEDS (Birkenhead).—Your idea of having shrubs as permanent centres and edgings to beds is, though not new, good, but your beds are rather small for shrubs to remain permanently, though with cutting they would endure a long time. For centres Gold and Silver Hollies, Aucuba japonica limbat, Osmanthus ilicifolius argenteo-marginatus, Taxus baccata aurea and elegantissima; whilst for margins the silvery Eucalyptus radicans variegata, Buxus sempervirens aurea nova, Hedera arborea elegantissima, H. arborea aurea, and Erica carnea are suitable, and can be kept of a moderate size for a lengthened period.

VINES FOR EARLY AND LATE HOUSES (C. J., York).—For early house—two Black Hamburgs, one Mill Hill Hamburg, one Foster's Seedling, one Buckland Sweetwater, and one White Frontignan. Late house—two of Muscat of Alexandria, one Alicante, one Mrs. Pince, and four of Lady Downe's.

CLIMBERS FOR LOW GREENHOUSE (Idem).—*Rhynchospermum jasmynoides*, *Kennedyia inophylla floribunda*, *Lapageria rosea*, *Jasminum gracile*, *Hoya carnea*, and *Sollya linearis*.

MARÉCHAL NIEL ROSE IN GREENHOUSE (Rose).—It will succeed trained beneath your greenhouse roof, but will not do so well as where it is shaded by the tree. The border should be 2 feet deep and well drained, but as the soil is gravel drainage may not be necessary. Turfy loam rather strong with a fourth of decayed manure form a suitable compost. If the Rose tree has been grown in a pot the shoots will require little if any pruning, and will produce blooms next summer; but if it has been dug up from the nursery it will be advisable to shorten the shoots considerably, so as to induce a free growth and lay a good foundation for a permanent plant. In the latter case you cannot expect many blooms the first year.

BRIARS FOR BUDDING.—Several correspondents wish to be informed where they can obtain these.

POINSETTIA (A. B. G.).—It belongs to the natural order Euphorbiaceae.

CHRYSANTHEMUMS UNSATISFACTORY (A. T.).—The cause of the blooms being small is not the result of any error in temperature, but arises either from the growth not having been well matured or from poverty of soil. If you grow the plants well during the summer, select good varieties and disbud in good time. You will have satisfactory incurred flowers with the conveniences at your disposal.

TREES FOR ORNAMENT (Cartoon).—You will find no trees answer so well upon limestone as Beech, both the green and purple-leaved thriving well in exposed situations. Limes are fine avenue trees, particularly so the red-twigged. Elms, both the English and Huntingdon, are suitable; and Horse Chestnuts are noble trees, the scarlet-flowered and variegated being especially beautiful. Sycamores succeed admirably in exposed situations, the variegated and purple-leaved being very fine. The scarlet Maples—viz., *Acer colchicum rubrum* and *A. virginianum (rubrum)* are not so extensively planted as they deserve. The Occidental Plane has noble foliage; and the

Black (nigra), Golden (concordia), and Scarlet (coccinea) Oaks have fine foliage, the latter being particularly striking in autumn. Poplars, Black Italian, Lombardy, Ontario, and Silver-leaved, the latter very remarkable, may be mentioned as suitable for moist soils. Birch "The Lady of the Woods" is among the finest of trees, the Fern-leaved Weeping and Silver Weeping being particularly attractive. All those should have stems of not less than 6 feet in height up to 8 feet, with well-furnished heads. Such trees are kept in stock by the principal nurseries, and are frequently transplanted so as to ensure their safe removal. Single trees for lawns move quite safely when of such a size as to be effective. A few of the finest deciduous trees for lawns are *Malus floribunda*, *Æsculus rubicunda nana*, *Laburnum* (Cytisus), Parksi, Scotch and Weeping; Thorns, double scarlet, double pink, and double white; Mountain Ash, *Salisburia adiantifolia*; double-flowered Almond, double-blossomed Cherry, and Stag's-horn Sumach, with a number of weeping trees. All should be of good size so as to be effective at once. It is necessary in planting trees on opposite sides of a drive or entrance that they be of the same kind so as to correspond, for to plant a Beech on one side and a Sycamore on the other would be equally destructive of effect as would a very elaborately chiselled gate pillar on one side and a rough one on the other.

ABUTILON (*Abutilon*).—Your seedling is very good; colour rich yellow, petals short and incurved, and flower of good form. It resembles *Reine d'Or*.

NAMES OF PLANTS (*A. C.*).—1, Send when in flower; 2, *Enonymus europæus*; 3, *Escallonia rubra*; 4, *Leycesteria formosa*; 5, *Polygonum vacciniifolium*. (*Sandgate*).—*Gesneria zebrina*. (*D. M. P.*).—*Cestrum* (?) sp. (the flower withered); 2, *Bouvardia* sp. (*F. P. F.*).—*Hibiscus cannabinus*. (*J. W. Hopkins*).—1, *Cobæa scandens*; 2, *Mercurialis annua*. (*A. H. S. Calford*).—We have had some difficulty in determining the name of the *Dendrobium*, which is, we think, *D. aqueum*.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

THE LAYING-OUT AND DIVISION OF ARABLE LAND.

THIS subject may seem comparatively unimportant until it is considered in its various aspects, when we venture to say it will be admitted to form a most essential item connected with the home farm and its profitable management. Railways have effected a great alteration in the face of the country in every district through which they pass, and these alterations have generally been of great benefit to adjoining properties, including both owners and occupiers, and have suggested that alterations may be advantageously made on many estates not intersected by railways. On various properties and home farms which have been under our management we have found fields in a diversity of shapes; and a removal of fences has been the result, with a great gain of land for cultivating purposes; but taking the kingdom at large very much yet remains to be done, the full advantage of which it is impossible to estimate. Railways, although their formation first called the attention of the agricultural interest to the subject, have absorbed extensive tracts of land in this country; it then becomes a question as to how much land can be gained by well-considered schemes of laying out the available land. In some cases as much land may be gained for agriculture as has been taken by the railway, especially when we consider that by the removal of fences large fields are formed of square or oblong shape, which are an improvement for steam culture and also ordinary cultivation.

The first impediment we have to notice to the proper laying-out and division of arable land are the old crooked fences, and more especially those with high banks and deep ditches. Let us for a moment refer to what was originally the cause of the fences for the division of the land. We can only suppose the object was to keep the boundary and fences against animals, also for drainage of the land; but modern improvements have doomed them to be cleared away, and it is only in a few instances when horned cattle are required to be fed in the fields they may be retained. In all those cases where sheep only are kept the live fences and ditches are not necessary, but quite the reverse; and with regard to the drainage of land it must be considered as good policy to drain and fill-in the ditches as it is to drain the adjoining fields, the pipe drain being a better main carrier for any draining in the field than an open ditch, with its constant expense in scouring, &c. Hedges, ditches, and fences upon arable land usually occupy an area which can be turned to much better account; and upon farms in general, particularly where the land is undulating, they occupy the best land, being usually placed in the lowest valleys,

besides which they encourage the growth of timber, which cannot be grown without loss to the occupier between the cultivated fields. The banks and hedges, too, encourage and protect vermin. We have recently noticed the young wheat just vegetated almost destroyed by rats, and it is found necessary upon some farms in certain districts, particularly where there are many rabbits, to keep some persons continually employed to destroy the rats. Fences, also, from various causes are often badly placed; they are either crooked, thereby enhancing the cost of tillage, or placed where they divide the land injudiciously, for each field should be as nearly as possible of the like soil as regards value and texture. We have often been forcibly struck with the damage arising from hedges even in the most exposed situations along the seacoast and in the hill districts in various counties, where they have been retained ostensibly for affording shelter to the corn fields, for we have seen on the lee side of the hedges great damage caused by the eddy action of the wind on the eve of harvest, the ears of corn being twisted and broken off and the grain beaten out; whereas in the open fields where the wind, powerful as it often is, passes over in a regular way, the corn, waving to and fro almost like the waves of the sea, receives scarcely any damage. Again, where do we find most sprouted corn in a wet harvest? Do we not often see the open part of our fields without damaged corn, whilst near the hedges enough is sprouted to injure the sale of the grain? Look also at the effect of banks and fences in fouling the land. In them sufficient weeds are reared and nursed often to seed the whole farm. It is true that cutting the borders for turf and burning it into ashes, or cutting the border grass for feeding cattle, tends to prevent weeds from seeding, but this is done perhaps only by the best farmers, whilst some of their neighbours' seed weeds enough in their hedges to plant a whole parish. As long as hedges and banks are retained they are sure to contribute to feed the fields with couch and coarse grasses, which the action of the harrows, &c., in turning will testify; and further in the case of what is termed the best kind of fence—a trimmed whitethorn—the cuttings and prunings which are often left on the land cause serious injury to sheep when the thorns enter their feet.

We will now allude to the exceptions where fences are requisite—viz., at the sides of roads, the bounds of the farm, the bounds of premises, &c., and particularly the boundary adjoining the pasture or park lands. These fences should if possible be of whitethorn kept neatly and closely trimmed. Our railway companies often set us a good pattern in this respect. We cannot leave this part of our subject without naming hedgerows, as upon many farms they form the divisions of fields, and the argument is still stronger against them than ordinary hedges. The shape of fields should be square or long with square sides, and may vary in size from fifteen to twenty acres each upon small farms, but upon large occupations they may be set out at thirty or forty acres at each roadway connection, having due regard to the roads and approaches at the boundaries. The fields, likewise, when possible should be of similar soil, in order that the cultivation and course of cropping may be regulated thereby. In the arrangement of fields due regard should also be had to access when labour is going on, such as harvesting of corn, the carting of manure, roots, &c., and the facility for steam ploughing with easy access for the removal of machinery, &c., appertaining thereto. The interest of the proprietor should always be kept in view, in order that the land should yield its full value in rent.

We have now stated what we consider the leading points to be observed in laying out our arable lands, and in order to illustrate the matter more fully we cannot do better than refer to what has been done upon farms of our own and others under our superintendence. On one farm in particular which came under our management we found the arable land divided into eleven fields and separated by fences, some of which were capital whitethorn hedges, others were of high banks and deep ditches; and although they had been for some twenty years kept neatly trimmed, still they were a source of expense, and occupied so much valuable land that we determined upon their removal. The argument against the banks and ditches being the strongest they were the first to be removed. The quickset hedges we retained several years longer; we, however, soon felt convinced of the advantage of removing the whole of them by the benefit we derived from the first removal. At the present time we have no inside fences upon the arable land of this farm. The gain in land was upwards of three per cent. for cultivation, saving of expense for trimming hedges, scouring of ditches, &c., and twenty-one less gates and panels of pales to keep in repair, whilst grubbing the fences furnished sufficient soil to cover the adjacent shallow lands. Access to the different fields is now complete, whilst formerly the fields could only be entered by the gateways. At present any carting can be done by crossing the fields in any direction, making a saving in labour in various ways of at least twenty per cent. In the place of a number of short ploughings there are now, but few, and those consequent upon irregular boundaries, which cannot be altered. Roads at right angles through the farm, giving access to all fields not adjoining a highway, are made with or in some cases without gravel, the latter form being useful

for the ordinary work of the farm; when made in proper form—cast-up, rounding, and being highest in the middle or horse track—the cart ruts only require to be picked in and the outside cast into the middle once a year, which serves to keep the roads in shape and the water tables clean and free, and at the same time keeping the borders of fields neat and well defined at trifling cost by manual labour only. The only additional expense incurred by the removal of inside fences is the cost of hurdles or hurdle gates, amounting to only a few pounds on a hundred acres.

WORK ON THE HOME FARM.

Horse Labour.—The wheat season is now so nearly concluded that the land must be managed in a different way from that which has been sown previously. The principal part of the land not sown is that which has grown a crop of turnips and has lately been in the process of feeding-off by sheep. There may be, however, some land not yet sown which has produced a crop of mangolds, or the seed time may have been delayed on land after clover. Under any of these circumstances it is well to plough and sow as we go; for if the land is ploughed beforehand it is never safe to obtain a favourable seed bed, as our climate after we get into the month of November is usually frost or rain, and sometimes both within twenty-four hours. We have found from our own experience best not to trust the weather but to put on horses enough to make two sets, one to plough the land and another to work the land after the drill or the seedman. In this way, although we have often frosts, yet not sufficient to stop the plough, and the work proceeds continuously through the day, so that in the event of rain setting in at any time all the land shall have been seeded which has been ploughed, and thus securing a seed time under the difficulties with which the manager of a home farm has often to contend in connection with the season for wheat. A few weeks ago we were engaged seeding land for permanent pasture: it seems rather late for such work, but we have on former occasions had capital pasture when seeded late. The land, however, was well prepared by a good clean fallow, and laid into form with plenty of water trenches in the case of cold flat land. One advantage in late sowing is that you have hardly any weeds to contend with. It is said that the frosts will kill the young clover plants whilst in their first or seed leaf. We have never found this the case when suckling and permanent white clover is sown amongst the cocksfoot, perennial, and other grasses, as they germinate quickly and with a strong leaf, which overlaps and shelters the clover plants in their infancy; indeed we have had no instance of failure in obtaining a good plant and growth by late sowing—viz., any time from the 1st of September to the 1st of October.

Hand Labour will still have some connection with wheat-sowing where not finished. The pitting of Swedish turnips, too, will still be going on where they have been early sown and become ripe, or where rabbits and hares are kept in considerable numbers, because the roots are apt to rot in the land unless they were late sown, and will now and at all mild intervals during the winter be in the full vigour of growth. These only will stand severe frost. All others should be pitted or stored in some way in order to maintain their full feeding value. The men will also be engaged in enclosed districts in hedging, ditching, &c., and in the hill countries where watted hedges are made this is the time for doing the work. The odd horse or horses will now be in attendance to the requirements of the cattle and sheep. The former will require hurdles drawn and moved from field to field, also hay for foddering them unless the hayricks are made in the fields where the roots are grown, in which case the shepherd cuts out the hay fresh as he wants it and carries it to the racks. This, however, applies more to stock flocks, as fattening sheep often have hay supplied to them as chaff. The supply of roots for cattle, too, is of some consequence at this time; and when a change of food takes place, whether it be from turnips to Swedes or Swedes to mangolds, the roots before any decided change is made should be mixed, so that the animals may become somewhat accustomed to the alteration of food and not suffer from leaving one kind of roots for another suddenly, as they are very apt to scour and lose condition through a sudden change of root food. For the milch cows cabbages will still be available if grown to an extent capable of supplying them until Christmas, which in ordinary seasons should be done. The horned ewes will by this time have nearly all dropped their lambs, which will require the shepherd's utmost care and attention. The wether lambs should be castrated at about a month old; the strongest animals may be done at three weeks old. Women will now be required to prepare and clean roots for the cutter both for cattle in the boxes and in the field before the sheep, taking care that sufficient for a fortnight's consumption be ready beforehand, otherwise when hard frost or snow overtakes the work it may seriously interrupt the system of feeding. Women also may now be employed in forking out the roots and small bunches of couch grass if found either in the rye, vetches, trifolium, or the clover; for we have found from our own experience, that in loamy and sandy soils in particular, that this mode of attacking the grass is not only the cheapest but the surest, and we may almost say the only way to keep it under, so that the seed time of the various crops may not be delayed or damage occur to the growth of cereals

as well as pulse crops. At about this time the fattening cattle should receive an additional supply of artificial food, and those animals intended for Christmas markets may now have the fullest allowance they will require; we never, however, exceed 4 lbs. of cake and 2 lbs. of meal per day for each bullock.

THE CRYSTAL PALACE POULTRY SHOW.

(Continued from page 379.)

Cochins.—The first Black cock capital in shape and very glossy; his condition good too, indeed he looked as bright as a cockerel in head; second, very sheeny but not large, and deficient in shank feathering; third, not quite through the moult, a good bird with splendid leg-feathering. Hens were good. First, a grand bird all round; second, beautiful in shape and glossy, but too big in comb; third, good in form but not large. The first cockerel we think held the same place at Oxford; his form is very good, but he is decidedly small; second, tall with ugly earlobes; third we liked for his green gloss. We could hardly agree with the pullet awards. First had a high bad comb; second was small and rather Langshan-like in shape; third much better, though a little deficient in leg feather. One shown by Mr. Storer was particularly good.

Cuckoos are certainly a new feature; we had no idea that anyone possessed so large a stud of this variety as Mr. Cuff must have to show eight pens. First were a really remarkable pair; second, too long in tail; third, rather light. Mr. Cuff showed one bird so short on the legs that we think he must have had a "dumpy" ancestor.

Spanish.—The cockerel class was the only large one for this variety. The first cock, good in quality of face, with a stout comb; second, a fresh-looking bird with smaller but very smooth face; third, not so good in comb. In hens, the first was in fine condition, but not very smooth in face; second, very good in the latter point. First and second cockerels well placed, both bright-looking birds with good combs and faces; third, very long in face. Pullets were rather good than numerous; the three winners all capital birds. We missed the name of Mr. E. Jones of Bristol in these classes.

Game numbered 269 as against 206 last year. The increase was chiefly in the Black Red cockerels and pullets, which each had thirty-two entries. Several birds were spoilt by fighting with their neighbours. Mr. Billett would be doing a good service to the Game fancy if he would extend the close wiring by one or two wires further. Black Red cocks (fourteen), first (Pope) was a good bred bird with a fine head, but wanting in bloom; second (Lyon), rather coarse. Mr. Matthew's very highly commended bird, 1157, was a fine bird of good colour and style, and long in head, but rather broad in the tail. 1160 (Voisin) was, if we are not mistaken, the cup bird at Birmingham in 1876; he looked wonderfully well considering his age, and might have been higher in the list but for the loss of his tail. 1161 (Maynard), highly commended, we thought one of the best in the class. In cockerels the cup went to the bird which was second at Oxford, and claimed there by Mr. Field; he is a pretty bird, but will hardly make such a good old one as Mr. Matthew's second (1184), which but for a rather dark eye must have been first. 1169 (Pope), third, good colour, but rather too much feather for a cockerel. We liked Mr. Lyon's fourth-prize bird, 1165, more than any of his other cockerels which we have seen this year. 1166 (Pope) was, we think, fourth at the Dairy Show; he is a neat bird, but has an inclination to a light eye. 1176 (Carrington) looked like the first Dairy Show bird; he has good points, but wants bloom. 1191 (Voisin), undubbed, is a bird full of promise. In Black Red hens Mr. Garnett was first with a bird bred by Mr. Pope; she was cheap at the catalogue price. Second and third both went to Mr. Pope for birds full of the quality for which he is so well known; the second-prize bird was also interesting, as being the mother of the £100 cock; the third-prize bird was one of those damaged by fighting with their neighbours. In Black Red pullets Mr. Pope took the cup for the best Game hen in the Show with a bird faultless but for a darkish eye and a white deaf ear; second (Dr. Etheridge) was a neat bird, but also had a dark eye; third went to Mr. Halsall for a bird which bore a strong resemblance to the Dairy Show winner, and fourth to Mr. Matthew for a pullet which looked like sister to the second. 1210 (Pope), unnoticed, we should have liked to have seen second; 1208, highly commended (Lyon), was pretty, but rather red in the wing. 1219, very highly commended (Lampriere) was very good, as also were 1226 (Green) highly commended, and 1233 highly commended (Maynard). In Brown Red cocks Mr. Martin took the cup with a fine bird, full of quality; second went to Mr. Fenwick, and third to Mr. Matthew. In Brown Red cockerels there were no less than six empty pens, so that there were only nine birds to judge. We preferred second and third (Martin), to the cup bird (Taylor); fourth (Matthew), good colour, but full in feather. Brown Red hens were still fewer in number, as there were only eight hens, but the first (Matthew) we thought might have had the cup for best Game hen in the Show; she was a splendid bird in faultless

condition. 1269 (Fenwick) was a good bird though unnoticed. Brown Red pullets mustered twenty-four, and contained so many good ones that it must have been a difficult class for the Judge to decide upon. First was won by Mr. Warde with a pullet pretty in colour but wanting in reach; second (Watson) and fourth (Fenwick) were of the same type; the third (Webster) was more reachy. We liked 1293 (Voisin) as well as any in the class; 1280 (Martin), 1288 (Bell), 1290 (Coulthard), and 1295 (Cameron), were good birds, though we noticed the class for Duckwing cocks brought some good birds together. First (Martin), a very smart bird, though not quite sound in the colour of the wing; second (Cameron), and third (Martin), both good birds. In cockerels first went to Mr. Matthew for his Oxford bird, certainly the best Duckwing of this season, but sadly spoilt here by fighting. Mr. Martin's second was hardly as good in colour as his birds usually are. We liked Mr. Harley's unnoticed pen 1321, better than his third-prize pen. There were seven Duckwing hens; first (Matthew) was a fine hen of genuine Duckwing colour; second (Lyon) a smart bird with good eyes; third (Thomas) we did not like; we should have preferred 1324 (Staveley), this probably lost a place from being pencilled on the wing. In pullets dark eyes and washed-out colour seemed to be rife. We liked 1335 (Goodwin), very highly commended, as well as any. She was very cheap at catalogue price. Messrs. Staveley's second-prize pullet was free from any defect in eyes and of good colour, which cannot be said for the first-prize bird, though she was only good in shape. Mr. Martin and Mr. Oakeley showed good pullets.

Pile cocks (eight).—First, a good hard-feathered bird, but a trifle thick in one of his feet; second, a good-coloured bird, but rather heavy in figure; third, a fair bird; highly commended 1343 and 1349 possessed merit. **Pile cockerels** (eleven).—First and cup for the best Pile was awarded to a grand stylish yellow-legged bird; second belonged to the same owner, a good bird but not so forward; third, a fair bird but lacking the high breeding of first and second. **Pile hens** (fourteen).—First, a stylish hen; second, nearly equal to first, but a trifle more red on wing; third, too pale in colour; highly commended and commended birds were fairly good. **Pile pullets**.—First, a grand pullet all round, we believe second-prize winner at Oxford; second, a good pullet but not so stylish as first; third, of but medium quality.

Malays numbered fourteen cocks and sixteen hens. A big dark cockerel was first, an old bird second, and a very good White third. The first and second hens were very fair.

Lephorns.—The Brown classes were very large—nineteen cocks and twenty-three hens, showing that the breed has become thoroughly popular. We always find considerable difficulty in making up our minds as to the respective merits of these birds; the first cock was rather dull in colour and not over-good in comb, but well shaped and free from the prevailing fault of squirrel tail; second, a pretty bird of much brighter hue. The winning hens were all in good condition with bright combs; there were others whose form and body colour we preferred. The first White cock a beauty in colour and form, and with really white ears; second, well-shaped but not large. The hen class contained a lot of fair average merit, the first winner we thought well chosen.

Andalusians are again becoming a thoroughly recognised breed, thanks in great part, we believe, to Miss Arnold. First cock well laced on breast; second, a very good bird in capital condition, dark in colour. First, a large hen, very fine and barely through the moult; second and third rather light-coloured.

Sultans (eleven pairs).—The first cock very good, though not quite through the moult; second, remarkable for the very good head and carriage of the cock; third were very yellow, we preferred their owner's other pair.

Langshans.—Only two old pairs, not remarkable, put in an appearance. The cup cockerel was a very glossy bird, exceedingly cochiny in shape; the winning pullets were all large, and the first very green, of the Langshan type.

Any other variety.—A beautiful pair of Silkies first; second, trim small Black Minorcas; third, Dominiques. Mr. Dugmore showed a good pen of White Rumpless fowls.

Bantams (Game).—Black Red cocks (thirty-eight).—First and cup a pretty little bird, but rather long in wings; second, a tight-feathered bird but dull in colour; third, very good, we preferred him to second; fourth, a fair bird, but out of condition; fifth, dull in colour; several of the highly commended birds were inclined to be too large. Black Red Bantam hens (thirty-eight).—First and cup, a good pullet, beautiful in colour with a good red face; second, rather too large but otherwise good; third, a very smart bird; fourth, good in colour but short on leg. Several highly commended were very good, especially 2163, 2166, and 2174. Brown Red Bantam cocks (nine).—First, good in colour but not dark enough in face; second, belonging to same owner, had a beautiful laced breast; third, good in colour but too large. Highly commended, 2183, also too large; 2185 we think deserved a card. Brown Red hens (six).—First, a smart gold-hackled pullet; second we liked better, she had a pretty brass hackle; third, very good, equal to first and second. Highly commended, 2192, a good coloured bird. Duckwing cocks (ten).—First, a good bird and well placed; second not so good, as he had a pencilled hackle, we

preferred third to him. Highly commended, 2194, a fair bird. Duckwing hens (ten).—First, a very smart one, but inclined to have a blue face; second, good in colour but too large; third, a smart bird. Pile cocks (twenty-two).—First, good with yellow legs; second also good, running the first very closely; third, good in colour but too large. Highly commended, 2216, a good bird but had been fighting; 2219 dull in colour; 2224 high in tail; 2225 a good bird, but evidently in ill health. Pile hens (nineteen).—First, small and very neat in feather; second, a fair pullet; third, another pullet, we thought her equal to second. Highly commended, 2343, a good shaped pullet. Several of the highly commended birds possessed great merit.

We think attention should be called to the fact that pens 1293 (Voisin) and 1352 (Colgrove), were highly commended in the Judges' book, though they appear unnoticed in the catalogue. It is impossible that in so large a Show as the Palace there should be no oversight, but the press may lend a helping hand to remedy them as far as possible.

Bantams (Black).—The cockerel in first pen was very small and neat; second contained a glossy but large cock, and a very small hen; third, rather too heavy. Booted.—All the winners were White; feathering seems more cared for than their smallness of size in these days, for the winners were decidedly large. We should have put Mr. Holmes' Black in the list. Sebrights seem to get sadly coarse, and are, we fancy, very inferior to their ancestors which we can remember fifteen years ago. First, very good Silver; second, the same colour; third, Golden. Any other variety. —First, Cuckoos; second, pretty Light Japanese; third, the famous imported Dark Japanese.

Waterfowls do not call for detailed criticism. Mr. Fowler of course was first with Aylesbury Ducks; it was amusing to hear the remarks of the gaping multitude upon his wonderful drake. Pekins are certainly a great addition to our ponds; formerly there seemed so little variety in useful (not so in ornamental) Ducks. There were sixteen pens of them in their class, besides several in the selling class. Rouen drakes and Ducks are now shown singly; there were twenty-four of the former and twenty-three of the latter. We still regret to see prizes given to some birds which we feel pretty sure do not breed, and must be much inconvenienced if compelled to walk. Black East Indians were a beautiful and attractive lot; we thought the cup pair the best we had ever seen, the Duck looking as green as many drakes; there was some difference of opinion on this point, owing to the indifferent light they were in from being shown in an under tier. Second were rather larger but very good, doubtless some of those which we so much admired in their home last summer. The other winners both capital pairs; the competition is very keen in this breed. Any other variety.—First, Mr. Serjeantson's well-known Paradise Ducks; we were amused to hear that this pair contrived to let themselves out of their pens after the judging on Monday, were found quietly walking about in the Palace. Second, Ruddy Sheldrakes; third, Spotted-billed. Surely this class requires subdivision, for several inbreeding varieties and a splendid pair of Mandarins went unnoticed.

Turkeys good, not large classes. We learn that the classes for young Turkeys have been much reduced or spoilt by the impunity with which for years exhibitors of old birds were allowed to win in them. This practice seems now in a fair way to be stopped, and we trust that honest breeders of early poult will take courage. **Geese**.—Gigantic Geese first; Greys again second, and Whites third.

The judging as far as we could learn was thus apportioned:—Mr. Hewitt took Dorkings, Cochins, Aylesbury and Pekin Ducks; Mr. Teebay Brahmas and Game Bantams; Mr. Smith Game and Malays; Mr. Dixon Spanish, Hamburgs, the rest of the Bantams, Waterfowl, and Turkeys; Mr. Tegetmeier French, Langshans, and the remaining varieties, some of them with Mr. Hewitt. We cannot answer for one or two of the Pigeon classes, but believe them to have been thus allotted:—Capt. Norman Hill Pouters, large and small; Mr. Wiltshire Carriers; Messrs. Betty and Louth Dragons; Mr. Esquilant Tumblers, Nuns, Trumpeters, Turbits, Magpies, Archangels, and Runts; Mr. Jones Fantails, Barbs, Jacobins, Owls, Antwerps, and young pairs; Messrs. Jones and Esquilant the collections.

BIRMINGHAM CATTLE AND POULTRY SHOW.

THE figures relating to the entries in the various sections show a general increase in all the more important departments, a result very gratifying to the Council in the face of a new and increased competition.

We anticipate that the exhibition in Bingley Hall will take the lead, as usual, in Shorthorn, Hereford, and Scotch breeds, both in point of numbers and quality, whilst the little Devons will be more at home in London, where the numbers will also be chiefly strengthened in the Sussex classes.

As regards sheep, the place to see Shropshires in perfection is Bingley Hall; and this year, owing, no doubt to the extra £50 prize presented by Messrs. Gibbs & Co., there is much stronger competition in South Downs and other breeds.

The pigs will form a larger display than usual, whilst the roots, corn, and potatoes are all far above the average in number of entries.

The Council, at its meeting on Thursday, made arrangements for the use of the electric light.

During the week the arrangements with the various railway companies have been made as to excursion trains, to which we shall refer more fully next week.

The Hall has been painted and coloured throughout, and will be completely filled, every available inch having been eagerly applied for by local and other leading implement makers. Messrs. Robey & Co. of Lincoln supply the engine to work the dynamo-electric machines.

The Council meet weekly on Thursdays to complete the arrangements.

VARIETIES.

AMONG the best sales at the late Crystal Palace Show we hear that the first Dark Dorking cockerel was bought in at fifteen guineas by his owners; the second went to Lord Tournour for £12 10s.; Mr. Norris's very highly commended Dark Brahma cockerel, price £21, had a "sold" card on him, also the cup Buff Cochins cock, price £20; the cup Light Brahma cockerel, £20; third Spanish pullet ten guineas; cup Silver-pencilled cock and pullet, each ten guineas; and the cup Silver Polish cock, £20. In Pigeons the fourth young Black Carrier was claimed for £32; the cup White Foreign Owl for £15; and last, but not least, the prize Black Turbit cock, bought by Mr. Woods for £26 at Mr. Roper's sale, was claimed by Mr. Burnell for £40.

WE hear that the Langshan enthusiasts are about to have a Langshan show, and to start a Langshan newspaper.

THE *San Francisco Chronicle* says:—"Los Angeles and San Diego counties can vie with the world in the quality of their honey, and the only drawback to extensive foreign demand has been the careless and diversified method of marketing. We are glad to see that there is to be a change in this regard in the southern counties. The process of packing to be pursued in future is described as follows: Upon receiving the extracted honey they place it in large settling tanks of 3000 lbs. capacity, and this, securely covered, is left exposed to the rays of the sun for a day or so. By this process all impurities are eliminated, rising to the surface, and the pure honey is drawn off at the bottom. It is then put up in neat tin cans containing 2 lbs. each, and packed in cases of two dozen each, handsomely labelled. The design is to ship direct to Liverpool."

WINTER TREATMENT OF BEES.

PROTECTION is the word that embraces all, or almost all, that is needful for bees in winter—protection from hunger, cold, moisture, and mice. And this protection is better given to bees in autumn before the winter sets in. It is natural for bees to store up a supply of food for winter before the cold weather comes. When weather prevents them from storing up enough, or when their stores are taken from them, artificial feeding should be resorted to in early autumn, and enough of food given them to keep the bees well through the winter. It is not natural for bees to take up artificial food or even honey in cold weather. How many bee-keepers are concerned about their stocks when the bees decline to take the food presented to them? It should be borne in mind that when the mercury of the thermometer falls to 50° or below it, bees naturally cluster closely together for mutual warmth. In such times warmth is preferred to food. Artificial feeding in cold weather is objectionable, because it may tempt the bees to leave their hives and face an atmosphere too cold for them to live in. But as most of us fail sometimes in doing the right thing at the right time, feeding may have been neglected or postponed, and sometimes we may discover that, owing to the weather of autumn being warm and open, the bees have well nigh eaten all their winter stores. Some hives in my garden, very strong in bees, did eat almost all their winter supply before November arrived; hence I have had to give them a second supply in a warm state and in a warm place. The food was made milk-warm and given to them in a hothouse.

Protection from cold and moisture is helpful to bees. I have heard people say that "a green Christmas makes a fat churchyard." Does anybody believe this? No. Statistics abundantly prove that the death-rate of human beings is higher in cold winters than in milder ones. Even in the vegetable kingdom how much we are indebted for the protection of snow. The cold of winter is a bitter reality to beasts, birds, and bees, as well as to poor half-clad human beings. All hives in Great Britain should be well protected from both cold and moisture. Most people know how difficult it is for frost to penetrate a grassy lawn or field. A good coat of grass wards off the frost from the soil below for three or four days—in other words, it prevents the heat of the soil from escaping. A coat 2 or 3 inches thick of dry soft grass or hay placed around a bee hive, beneath the outer covering, is a great protection to bees in winter, and makes their hive a cosy

nest for early breeding in spring. From moisture without and within bees must be protected. Hives should never be made damp by either rain or internal moisture. The hives that let the moisture of the bees pass off, and do not condense it on their sides, are the best for bees in autumn, winter, and spring. The materials of hives are of less importance in summer. The question of ventilation is one of great importance in apiculture, and will by-and-by command the attention of observing and successful bee-keepers. Not only the hives but also the coverings of hives should permit the moisture of bees to pass out and off as soon as formed.

All that is necessary to protect bees from mice is to contract the doors of hives so that the vermin cannot enter. I have known many hives ruined by mice. When bees are sitting closely together, and a mouse can get at them, it carries them out one by one and eats their heads off. I have heard of an Eastern prince who ordered a dinner of peacocks' brains. It appears to me that mice are very fond of the brains of bees, for they eat nothing but their heads. Both house and field mice destroy bees thus, and eat honey when they can get it.

The only winter work in the apiary that cannot be done in autumn is protection from snow. Bees are apt to leave their hives after a storm and before the snow is melted. When they come out at such a time they fall into the snow and die. Their doors should be closed when snow is on the ground, and opened when it is gone.—A. PETTIGREW.

OUR LETTER BOX.

POULTRY FARM (*H. L. Sarge*).—No poultry farm has hitherto been profitable. Our "Poultry-keeper's Manual" contains all the information we possess.

FEATHER-EATING FOWLS (*A. Withers*).—We know of no cure for this vicious habit. If the offender was kept separate from the other fowls for some weeks and supplied daily with vegetable food only it might cause a reform.

AMERICAN BEE JOURNAL (*G. S. Harding*).—Apply to Trübner & Co., Ludgate Hill, London.

FOOD FOR HORSES (*A. Correspondent*).—Farm horses will require whilst the work is severe two bushels of oats per week and a bushel of Indian corn, the flat sort being cheapest; both oats and maize should be crushed, as some animals do not grind their food properly, some from defective teeth and others from hasty feeding. The allowance of fodder may be hay and sweet straw mixed, about 15 lbs. of each per day, cut into chaff to be mixed with about 12 or 15 lbs. of pulped roots, either carrots or Swedes at present; in the spring mangolds. This root food is essential in keeping the stomachs of the horses in a proper state. If the work is easy during the short days the maize may be dispensed with altogether, and resumed when the heavy work of the spring seed time comes on.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.				
	Baring's and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Temperature.		Radiation Temperature.	
1878.		Dry.	Wet.			Max.	Min.	In sun.	On grass.
Nov.									
We. 13	29.425	36.3	34.8	N.W.	40.0	39.2	32.8	44.3	28.5 0.066
Th. 14	29.494	34.4	42.4	N.W.	40.7	44.3	36.0	40.8	37.1 0.207
Fr. 15	29.264	40.3	40.2	N.W.	41.0	41.6	36.7	45.7	36.9 0.512
Sat. 16	29.250	41.8	39.2	N.W.	41.0	46.0	37.4	69.1	35.0 —
Sun. 17	29.531	42.2	39.8	N.W.	41.2	46.2	35.7	58.4	35.1 0.140
Mo. 18	29.959	42.9	42.4	N.W.	42.0	48.6	40.7	77.8	36.6 —
Tu. 19	29.498	34.7	37.8	N.	41.6	47.7	35.7	73.2	31.8 —
Means	29.616	40.8	39.5		41.0	44.8	37.0	58.5	34.4 0.925

REMARKS.

- 13th.—Fair morning, but after 10.30 A.M. cold and damp with drizzling rain.
 14th.—Wet, cold, dreary day.
 15th.—Another wet day throughout; windy in afternoon.
 16th.—Fine pleasant day; misty towards evening; slight rain in evening.
 17th.—Clear fine morning, sunshine at short intervals; showery afternoon and evening, with squalls of wind.
 18th.—Fine day on the whole, with bright sunshine; only a few slight showers; damp evening; starlight and clear at 11 P.M.
 19th.—Very fine sunny day; foggy in evening.
 Temperature nearly the same as last week. The first three days very unpleasant.—G. J. SYMONS.

COVENT GARDEN MARKET.—NOVEMBER 20.

BUSINESS keeps very quiet, the large consignments of American Apples completely paralysing home-grown fruit, unless samples are exceptionally good. Grapes are in better demand, the bulk of Black Hamburgs being now cut. Kent Cobs quiet at previous rates.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	3	sieve	0	0	0	0	0	0	0
Apricots.....	dozen	0	0	0	0	dozen	0	0	0
Chic-stouts.....	bushel	0	0	0	0	Oranges.....	per 100	8	0
Figs.....	dozen	0	0	0	0	Peaches.....	dozen	0	0
Filberts.....	per lb.	0	9	1	0	Pears, kitchen..	dozen	0	0
Cobs.....	per lb.	0	9	1	0	dessert.....	dozen	3	0
Grapes, hothouse	per lb.	1	6	0	0	Pine Apples....	per lb.	2	0
Lemons.....	per 100	6	0	18	0	Walnuts.....	bushel	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week	NOV. 28—DEC. 4, 1878.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
28	TH	Antiquarian Society, at 8.30 P.M.	48.1	33.9	41.0	7 37	3 57	11 35	8 7	4	11 51	332
29	F		51.3	33.8	42.5	7 39	3 56	11 56	9 24	5	11 30	333
30	S	Royal Society at 8.30 P.M.	48.0	34.5	41.3	7 40	3 55	0a 12	10 38	6	11 8	334
1	SUN	1 SUNDAY IN ADVENT.	48.5	34.9	41.7	7 42	3 55	0 26	11 48	7	10 46	335
2	M	London Institution at 5 P.M.	47.4	33.7	40.5	7 43	3 54	0 38	Morn.	8	10 23	336
3	TU	Zoological Society at 4 P.M.	47.0	35.8	41.4	7 45	3 53	0 50	0 57	9	9 59	337
4	W	Society of Arts at 8 P.M.	48.1	36.4	42.2	7 46	3 53	1 2	2 5	10	9 35	338

From observations taken near London during forty-three years, the average day temperature of the week is 46.9°; and its night temperature 34.4°.

NOTES ON VEGETABLES.

IN some respects the summer just passed has been a remarkable one in the vegetable garden. There has been something mysterious about the Cauliflower crop in many places. The heads produced in spring from autumn-sown plants were all that could be desired; but successional summer crops, although produced in some instances from the same packet of seed, were very unsatisfactory. Such has been the case here, but the autumn crop of Veitch's Autumn Giant is splendid. It has yet to be seen how the autumn Broccoli, a very important crop, will turn out; at present it promises well.

Carrots with me have been good, but there are complaints about them in some places. I think most people sow Carrots too early; there is no necessity for sowing the main crop before the beginning of May. For my part I have no main crop, but sow successions outside from the beginning of April till the middle of July, the later sowing succeeding Ashleaf Potatoes. Carrots are comparatively hardy; those sown late will stand outdoors till February if we have no severer winter than we have had for several years, and they are of far better quality when taken fresh from the ground. The Early Nantes, a comparatively new variety, is the best I know for quality; it is about the size of the French Horn, and ends abruptly instead of tapering, consequently there is no waste. Those who have carefully tested the difference in quality between the small varieties and the larger will never grow the latter except for cattle. I find many people have made up their minds they do not like Carrots as a vegetable simply because they have never had them sufficiently cooked. To be good they should be boiled fully two hours, so that when put into the mouth they melt like a well-cooked Vegetable Marrow.

Celery I have planted for the first time on the flat, manuring and digging the whole ground alike, and planting the rows about 5 feet apart, with a couple of rows of Lettuce between, to the manifest advantage of both crops. Our soil being very shallow as well as heavy it is decidedly mischievous to trench and lay aside the friable sweetened portion and plant in the comparatively sour and sterile stuff at the bottom of the trench. It is true the plants have generally grown tolerably well, owing to the large quantity of strong manure placed in the trench, but the roots were confined to the trench and had no chance of ramifying a yard on each side as they have when planted on the flat, and consequently wanted more attention in the way of watering. Some of the roots now are cut in earthing-up; but as this happens in autumn when the weather is not often dry they are not likely to suffer much from this, and as the drainage is more perfect through the winter we may fairly expect it to have a favourable effect on the keeping. I think, however, the rows should not be nearer than 6 feet on shallow soils, as with the present arrangement I have but barely sufficient friable soil for earthing-up. We are obliged to place burnt clay or something gritty round the stems when earthing-up to keep away the slugs, and it is done in this way: we rear

and secure a board up on each side of the row about an inch from the stems, fill the space between the two boards with burnt clay, and then bank up with the ordinary soil outside of the boards before removing them. I consider Major Clarke's, or Leicester Red, the best Celery when it can be had, but it is of no use for the winter except in the most favoured localities. Williams's Matchless is perhaps one of the next best in quality, and will stand the winter.

I must again praise the Improved Round-leaved Batavian Endive (not Fraser's, mind; that is coarse and not nearly equal to the old Batavian, but the one sent out by the Messrs. Veitch a few years ago, and figured in their catalogue). I have given up growing Lettuces for salad in autumn and winter in favour of this Endive, for when once the warm weather is gone the Lettuce grows slowly and blanches imperfectly, and this Endive is then decidedly the best, for it hearts well, blanches easily, is quite as sweet as Lettuce is at this time of year, and many people do not know it from a good Lettuce in the salad bowl. With sliced Tomato and a little really good oil it makes, in my estimation, a perfect salad. But I have lost my Tomatoes. I was, like some of your other correspondents, under the happy delusion that glass was a safe barrier against Peronospora; the untimely end of the Tomatoes has taught me differently.—WILLIAM TAYLOR.

THE ROSE ELECTION AND THE TEAS.

I HAVE received a letter couched in courteous language asking me, Would it be too much labour to have an exhibition Tea Rose election? There are various reasons against this—firstly, my time; next, that at this season when the nurserymen are all so occupied with executing orders they cannot give the time to such matters really outside their everyday duties, already sufficiently onerous; and lastly, that I think that we ought to get a fair approximation to the best exhibition Tea Roses from the general election itself. That election was an exhibition election, and I presume that the Tea and Noisette Roses named in that list ought to come out at the head, even in an election confined exclusively to Teas and Noisettes. If, therefore, I state all the votes given to this class of Roses in the general election, it may serve as an assistance to some amongst the readers of our Journal.

Altogether there are twenty-five Roses of this class named. Nine of these have been already mentioned in the list of seventy-two—viz., Maréchal Niel, 39 votes from 41 voters; Catherine Mermet, 27; Souvenir d'Elise, 21; Souvenir d'un Ami, 20; Marie Van Houtte, 18; Devoniensis, 18; Niphetos, 11; Gloire de Dijon, 11; Belle Lyonnaise, 8: these were all named in the list of seventy-two best exhibition Roses. Next to them comes the Madame Bravy-Alba Rosea Rose with 6 votes; Madame Willermoz and Souvenir de Paul Neyron obtain 4 votes each; and Triomphe de Rennes, Jean Ducher, and Marie L. Pernet are nominated three times; then follow Comtesse de Nadailac, Céline Forestier, Madame Margottin, Perle des Jardins, Rubens, Anna Ollivier, La Boule d'Or, Jean Pernet, and Madame Caroline Kuster; while one Tea has a solitary vote—viz., Bouquet d'Or.

These I take it, according to the general election, are the best exhibition Teas. Is there any difference in the more select election of seventy-two varieties? Let us see. There we had fourteen electors, and Maréchal Niel 14 votes, Catherine Mermet 13, Souvenir d'Elise 12, Marie Van Houtte 11, Devoniensis 11, Niphetos 11, Souvenir d'un Ami 10, Marie L. Pernet 6, Alba Rosea 6, again make a muster of nine Teas in the seventy-two varieties, thus far in numbers resembling the other election and differing in names only by the substitution of Marie L. Pernet and Alba Rosea for Gloire de Dijon and Belle Lyonnaise. To continue: Madame Willermoz, Belle Lyonnaise, and Comtesse de Nadaillac muster 5 votes, old Gloire de Dijon has 4 votes, Perle des Jardins and Jean Ducher 3 each; whilst Boule d'Or, Madame Caroline Kuster, Rubens, and Cheshunt Hybrid, assuming this Rose to belong to the class, have only 2 votes each, and Anna Ollivier, Céline Forestier, Madame Hippolyte Jamain, Madame Margottin, Souvenir de Paul Neyron, and Souvenir de Madame Pernet have each only a solitary vote. Curiously enough, here also I make the total mentioned to be twenty-five! and the difference between the two lists is simply the naming of Cheshunt Hybrid, Madame Hippolyte Jamain, and Souvenir de Madame Pernet, instead of Triomphe de Rennes, Jean Pernet, and Bouquet d'Or. Taking these two lists together we thus get twenty-eight Roses named in these varieties.

It may further be noted that in the seventy-two varieties nine Teas are named, or exactly one in every eight Roses. Carrying on the comparison, the ratio is nearly the same—viz., 25 in 180, or rather over one Tea in every seven Roses.—JOSEPH HINTON, *Warminster*.

GROWING GRAPES IN COOL HOUSES.

THOSE of us who live in the south, far away from the coal districts, find the cost of fuel an important, often a burning, question in more senses than one. How to keep down the coal bill is a problem which we find very difficult to solve, nor can we hope for much sympathy from northern gardeners, for it is a matter on which they hardly bestow a second thought. "How about coal?" said I once to one of these favoured individuals residing in the south of Scotland, and who had just been enumerating his glass houses by the dozen. "Eh," said he, "Coal? Why, we just send a cart to the pit!" He actually had a coal pit on the estate, and thought no more of it than I do of sand, peat, or chalk, or any other substance which happens to abound in our particular locality. With an unlimited supply of fuel the temptation to apply artificial heat in changeable or ungenial weather, "just to keep the thermometer steady," must prove irresistible, hence the idea that fuel is an indispensable necessity for Grape-growing.

During the past season I have put the matter to a much more severe test than that advised by "A KITCHEN GARDENER" for a vinery, containing in addition to Black Hamburg, two strong canes of Lady Downe's Seedling, two of Alicante, two of Madresfield Court Muscat, and one of Mrs. Pince's Muscat, and had not a single fire from the starting of the Vines till the crop was fully ripe. Now for the result. Madresfield Court Muscat before has never been so good in this house, bunches and berries being of good size, and that delicious flavour for which this Grape is so much valued was fully developed, and the colour was all that could be wished; in fact, the fine crop of fruit was thoroughly well finished, as was that upon the whole of the other Vines. The Black Hamburg and Madresfield Court Muscat are all used, Mrs. Pince's Muscat being in use now, while the Alicante and Lady Downe's Seedling are still untouched, and I have no doubt will keep well as long as may be required.

To close the ventilators with the thermometer at 90° from solar heat is a standing rule during the swelling of the fruit, only broken during the second swelling of the fruit of Lady Downe's Seedling, when if the weather prove sultry the ventilators are thrown wide open night and day, and thus all loss from scalding is avoided.—EDWARD LUCKHURST.

NOVELTIES IN THE ROYAL GARDENS, KEW.

CRINUM FORBESIANUM is one of the most important of the introductions to Kew this year, and certainly ranks high among the finest species. It appears to be very dwarf in habit, the scape not being longer than a foot. The bulb is of large size, from 7 to 8 inches diameter and ovoid in form. The leaves are just appearing and seem inclined to spread;

their margins are finely ciliated. No other species produces so large an umbel. The flowers numbered over two dozen, and each of considerable size, something in form like *C. ornatum*, to which set it belongs. This species embodies a fine feature in the colouring of the flowers; each segment has a broad line of deep rose along the centre, and this rich colour shades off to a pure white margin. It was derived from the Lebombo mountains north of Natal. This plant is in the Begonia house. Close at hand is a remarkable *Hippeastrum* with green flowers, introduced by Messrs. Veitch and named *H. calyptratum*. It appears to flower freely, scapes having been thrown up in succession. In the next house *Mesembryanthemum fragrans* is the only one in effective condition, and this is extremely pretty, with five large yellow flowers nearly 3 inches across, and, as the name denotes, fragrant, and that very sweetly. It is one of the creeping kinds, with deep green very fleshy leaves, forming the tongue-leaved section.

One of the prettiest plants in flower and rare is *Trichinium Manglesi*, in perfection, too, for many weeks past. It is an *Amaranth*, native of the Swan River, and the rosy flowers are mixed with fine white hairs in a dense roundish cluster. It is nearly hardy, but is best grown under glass, at least during the greater part of the year. It is very slow of increase unless taken in hand the right way, and this is by cutting up the rootstock. The leaves are rather scanty, and the flower stalks slender and naturally perhaps decumbent, so that a good specimen can only be had by grouping. We should recommend early propagation by the above means, so that plants are ready for the open ground in May. In September those likely to flower should be taken up to bloom under glass, since no other plant could suffer more from splashing of dirt by heavy rain.

Economic plants are not of general interest, but we may note one of considerable beauty, though only an annual—a class, by the way, increasing greatly in popularity. This is *Guizotia oleifera*, allied to *Heliosis*, and bearing flower heads about 2 inches across with fine bright yellow ray. It yields the important Ram-til oil of India, used in India as a condiment and for burning in lamps. The plant assumes a pyramidal form and flowers freely. The leaves are oblong or lanceolate, and light green in colour. *Osmanthus fragrans* is worth mention for its most delicious perfume, utilised by the Chinese for perfuming tea, hence its position in this house. As an idea we should rather prefer a plant in flower on the table itself, and the tea aroma would mix with its perfume agreeably without doubt. The leaves are dark green and handsome. The plant admits of cutting freely, so that it can be kept to any size or shape, and sprigs are freely available without injury. It is grown from cuttings, or may be grafted on Privet and planted against a wall, though it flowers freely only under glass.

Under our heading above some pardon is requisite for mention of *Aphelandra cristata*, which no doubt will be granted on account of its extreme showiness. It was a novelty 150 years ago. While several other kinds have prettier leaves, such as *A. Fascinator*, no subsequent introduction has surpassed its fiery scarlet flowers, and so we recommend for it a wide cultivation still.

A fine new *Machæranthera*, finer than any hitherto introduced, is in great beauty. No name has yet been given, but a figure will be published in the "Botanical Magazine," no doubt under the genus *Aster*, to which the above has been reduced. It appears of biennial duration, though if sown early, as in this case, flowers are produced the same year. The flower heads are over 2 inches across, of deep bluish purple, and very numerous produced in large panicles. It came from Colorado, apparently with much greater success than the beetle.

In the Succulent house a very fine form of *Agave schidigera* will shortly open flowers. We admire the plant in the first place, the flowers being rather of interest and without beauty. Every leaf is thickly clothed with white threads, which, curling about, afford an unusual kind of beauty. As well known, the collection of this genus is important, some kinds being represented here only, and of this number we might mention *A. dentata*, a plant in the way of *A. attenuata*, but with very minute and numerous teeth. We are especially charmed with a nice plant of *A. utahensis* with narrow silvery leaves, radiating and, as it were, forming a star. It is said to be hardy, but a plant so rare and choice cannot be permitted to prove the question. Of the new species *A. Desertii* and *A. Shawi* are good representatives.

In the Cape house a pretty miniature *Hyacinth* has been flowering under the name *Milla sub-biflora*. It turns out to

be *Hyacinthus corymbosus*, L., a native of the Cape. It grows in a dense tuft only about 3 inches high. The leaves are subulate, among which appear numerous lilac flowers, two or three together on each stalk. Herbarium specimens answer the name much better. The flowers are numerous, in broad clusters, so that by giving plenty of room to the bulbs an equal number of flowers might be produced from each.

THE ROSE SEASON OF 1878.

"WYLD SAVAGE" has given his *résumé* of the Rose year. I should like to give (as I have been accustomed for some years) my review of the past season so far as the queen of flowers has come under my notice. As I have already given some notice of the Rose shows at which I have been privileged to assist, commencing with the pleasant gathering at Holmside near Reigate, of the Brockham Rose Society on June 27th, and ending at Newton Stewart on July 16th (for I do not take into account exhibitions at which the Rose forms a small part, but those only where it is either exclusively the object of the show or else the *pièce de résistance*), it will be unnecessary for me to enter into any detailed reference to these separately, but merely to draw some general deductions as things have struck me.

And first with regard to the season. In my judgment it was not a good Rose year. The winter was very fatal in many soils to the Manetti; the constant wet completely rotted the roots, and I have seen and heard in gardens in Cheshire, Kent, Dorsetshire, and other counties of wholesale losses from this cause. The early part of the spring gave promise of an abundant growth and fine blooms, but spring frosts in some places and the cold cheerless weather in the early part of June completely disappointed these expectations. I was inundated with letters about our National show, complaining that the fixture was too early, that it would be impossible to have blooms in, &c.; then came that extraordinary burst of tropical weather in the last week in June, baffling all expectations and destroying the hopes of many a small grower. So that again we have to say that the season was an exceptional one, as they have been for three or four years; and as exceptional means in this case bad, it is to be hoped that we may soon come to normal seasons. The result was, that taken as a whole Roses were not so good as I have seen them. There was a general want of substance and what I would call finish; and while, as I shall notice, some astonishing blooms were exhibited, the general character was below the average.

The popularity of the Rose seems not only not to be diminishing but increasing. I have been asked this year to officiate as judge at places in our southern counties which are little known, situated on branch lines of railways little frequented by the travelling public, where the Rose was the only flower shown, and was sufficient to draw together all the neighbourhood; while far away in the west of Scotland I hear that the Rosarians' Society closes its year with a handsome balance in hand. The influence, too, of our National Rose Society is telling. Two-day shows have been abolished in some places and will be soon a thing of the past; its rules of judging have been eagerly sought for and are being acted upon; while the immense demand made upon growers for sale, of which I hear from all quarters, shows how widespread this love for the Rose is, and I think I may fairly say has been largely fostered by the work of our National Society.

I do not remember any season when there has been a greater scarcity of good new Roses. Looking down the long list which reached me last November from Charles Verdier I hardly see one that has made any mark. I did see in early spring a bloom of Boiledeau which struck me as very fine, but nothing else has come prominently forward. Whether there may be some flower which has hitherto "wasted its sweetness on the desert air" and is yet to take us by surprise I know not, but I see no sign of it as yet. A good one is sometimes overlooked, as in the case of Comte de Raimbaud, a bloom of which exhibited this year took everyone by surprise. The name even does not appear in the catalogues of most of our leading growers, and is, I am told, only to be found with Mr. R. Veitch of Exeter. But if French Roses have disappointed us English raisers have maintained the glory of the flag. Mrs. Laxton (Paul & Son), John Bright (Paul & Son), May Quennell (Postans, sent out by Wm. Paul & Son), and Penelope Mayo (Davis, sent out by Turner), have all proved good Roses. The first especially is one of the finest exhibition Roses we have. I have watched it as it has been exhibited both in pots and as

cut blooms, and under all circumstances it has proved a first-rate Rose. We have some promising Roses also coming forward, but these notes have to do with the past and not with the future. It is disappointing that out of the thirty-six Roses put into commerce last autumn in France no more can in justice be said, but of late years our gains from these have been few.

While the general character of the bloom was below par there were certainly some of the finest blooms exhibited I ever recollect to have seen, and it is very remarkable how certain Roses in particular seasons come to the front. Last year François Michelin was everywhere good, this year I did not see a noticeable bloom. The Rose of the year, and that in a year when dark Roses were not especially good, was in my estimation Reynolds Hole. I am not likely to forget soon the blooms exhibited at Manchester and Preston, a box at the latter show exhibited by Mr. Cranston being one of the most telling exhibits I ever recollect to have seen. Then there were at the National Rose Society's Crystal Palace Show some stands which will long remain in one's memory; the stand of Horace Vernet exhibited by Mr. Cant, wonderful in size and colour; the magnificent stand of Souvenir d'Elise Vardon shown by Messrs. Mitchell & Son, Piltown, the very perfection of a Tea Rose, and with such substance as one rarely sees; the beautiful box of Capitaine Christy by Messrs. Paul & Son, Cheshunt, showing how valuable it is in such weather as we experienced the last week in June; and the stand of Boule d'Or exhibited by Mr. Cant, a Rose which no one seems able to grow as he does—at least not to open its blooms, it being one of those hard-budded Roses which perplex and worry growers.

Nor must it be left unnoticed how much the seedling Briar is taking the place of the Manetti, and along with it Briar cuttings. On all sides I hear of the favour in which it is held; and although its comparative slowness will not make it commercially so great a favourite with growers for sale, yet I am confident every year will see it increasing in numbers. I do not find it liable to the objection sometimes urged against it, throwing up suckers as the Dog Briar of the hedge does, nor underground shoots as the Manetti is so liable to do. A careful excision of the eyes will in both cases greatly prevent it, and I cannot but think that an indigenous stock is much more likely to suit our climate than one brought from the sunny plains of Lombardy. It may be true that this stock is novelty, having been so long used by French Rose-growers for their Teas, but Mr. Prince's name will be ever identified with the extended favour it has met with in England. Others are following in his wake, but he undoubtedly led the way.

It will have been noticed that the fixtures of the National Rose Society have been already made, the first at the Crystal Palace on June 28th, and the second at Manchester on July 14th. Rose-growers are busy preparing for the battle, and if I mistake not we shall, if spared to see it, see such a "gathering of the clans" as has not yet been witnessed. *Vivat Regina!*—D., Deal.

DRESSING CARNATIONS.

As I read the papers by "WYLD SAVAGE" and "A STAFFORDSHIRE GROWER" on the subject of dressing flowers I had forcibly revived in my memory the words of the great apostle, "For when for the time ye ought to be teachers ye have need that one teach you again which be the first principles." "WYLD SAVAGE" entered into the discussion evidently without an elementary knowledge of the laws which govern its practice, and was so deeply in error as to suppose that gum or other extraneous substance might be used; and "A STAFFORDSHIRE GROWER" thinks that unfair and illegitimate which was set up by the first master of dressing (*vide* Hogg: "One Christopher Nunn of Enfield, Middlesex, a noted florist in his day, was eminent for his skill and dexterity in dressing Pinks and Carnations for prize exhibitions. Some will even tell you Kit was father of the art. Upon such occasions he had as many applications to dress flowers as he had to dress wigs, for he was a barber and friseur by trade, and could both shave and lay a Carnation with the greatest nicety"), and thus traverses not merely the unquestioned and unquestionable practice of our fathers, but all the arts of cultivation.

If it be illegitimate for Mr. Douglas to have the help of his friend and the friend of every devoted florist in the length and breadth of the land (Mr. Simonite), it must be equally illegitimate for Mr. Whitbourn to employ Mr. Douglas, for Mr. Douglas to direct the hand of any save himself, and so on and

on until society had ceased. As a matter of fact I can speak of the existence of the practice for upwards of fifty years, that period having elapsed since I first saw a Carnation show, and never before have I heard it questioned. If "A STAFFORDSHIRE GROWER" will put away the vain fear which, as it appears to me, prompted his questioning, and will bring well-grown flowers to the next London exhibition, I will, if spared, undertake to obtain for him such aid in their preparation as will leave him little room for a grumble; but if, declining this, he will only enter into a competition in which, from his point of view, there shall be an equality of power, I ask him, How will he reply to the novice who, coming for the first time to the exhibition table, says to him, "You have been by your own showing a grower and exhibitor at local shows for many years, and have been fairly successful; I commence to-day only, therefore bring the flowers you first brought and dressed as you first dressed them and pit against mine, or I cannot compete upon equal conditions?" Probably the "STAFFORDSHIRE GROWER" would feel and express much amazement at the pretension of the novice, and he must pardon my saying that most experienced florists will regard his proposition with the same feeling.

If Mr. Douglas had been guilty of obtaining illegitimate aid in the preparation of his flowers at the late exhibition of the National Carnation and Picotee Society the complaint should have been made to the executive of the Society, who would know how to deal with and repress irregularity.—E. S. DODWELL, 11, Chatham Terraces, Larkhall Rise, Clapham, S.W.

GARDEN FENCING.

MR. LAXTON asks for suggestions with regard to a cheap, durable, and reasonably safe fencing. As he mentions wooden walls I will venture to give my experience. As the ground has depth of soil I should recommend, if stone is easily to be procured, to place the wooden posts for the fencing on large stones, fastening them by iron dowels, there is no necessity then to use oak; good red deal $3\frac{1}{2}$ by $2\frac{1}{2}$ inches—that is, a 7 by $2\frac{1}{2}$ batten cut in half and set edgewise, is strong enough. Posts to be placed 7 feet apart and boarded horizontally with inch red deal, each board about 7 inches wide, 21 feet long, and not jointed too close, so as to allow for expansion by wet. Use neither paint, gas tar, nor anything to surface the boards for at least two years, and even then it is better to avoid it if possible. I have known an unpainted wood palisading last nearly thirty years, when the posts had quite perished in the ground.

I presume that as the boarding is to be used for protection it is also to be economised as a fruit wall. I put up one six years ago when taking in some extra kitchen garden. Wanting a protection from the north I made the fence 8 feet high, and trained on it Plums. In two years the Plums had covered the boards, and the second year were covered with fruit. This year again the fruit was hanging in ropes. Stays should be placed from every third post—that is, 21 feet apart, sloping to the south, fixing each post in a stone about 5 or 6 feet from the boarding; put a half-rounded top rail $3\frac{1}{2}$ by 2 on the top of the upright posts, and if the position is much exposed board up by means of a top and bottom rail every other stay, so as to break the force of the wind, protect the trees, and make a warm border. I do not think the fruit wall, if I may call it such, which I have made nearly on these measurements is any worse now than when first put up. The trees are trained on galvanised wires.

It is not generally known that the best and most lasting wood for posts is Robinia pseud-acacia, and that even young shoots will last longer than oak or Spanish chestnut. Unless oak is very full of heart it does not last much longer in the ground than a good piece of well seasoned red deal, and the comparative cost of working and the first outlay is great. A good Onga post will last out two larch posts; but if the ground is moist elm is preferable to either, provided all sap is taken off, and the post is well saturated in gas tar mixed with paraffin or creosote with sulphate of zinc. It is cheaper in the end to cut elm posts out of well-seasoned wood rather than use limbs only squared up and put in undressed, as is so often the case with rough oak posts, &c., for common fencing.

If on one side of the experimental garden a protection against cattle is all that is required, nothing is more inexpensive than a well-constructed wire fence; and I may say instead of expensive wrought iron straining posts I have found that 4 or 3-inch cast iron pipes, such as are used for hot water, cut in half, 12 by 9 feet lengths and fastened into large stones with Portland cement, and properly stayed, form as good straining

posts and as cheap as anything that can be used. Two-inch cast iron pipes are enough for most places, but I have had them 4 and 3-inch in the south straining wire fences against covers, and in a park, and have never found them broken by horses or cattle, though a slight 2-inch one in my lower kitchen garden was broken not long ago by a horse being driven against it when playing with another, having been let loose accidentally from a field. But this was in a position where it would not, except under quite unforeseen circumstances, be exposed to such hard treatment. The stays should be of double bars of wrought iron, with an opening for the wires to go through between them, bolted into the cast iron post just under the top wire, and set in large stones. The stone in which the upright post is fixed, and that which supports the stay, should be connected together by means of a strong iron bar leaded into each stone. I am only speaking now of the straining posts; as iron is cheap now the intermediate posts may be of wrought iron. Note one thing, the top and second wire should be strong and hard drawn, and avoid as a rule contract work with wire fence makers; this, perhaps, is a bold thing to say. Should a wire fence be undesirable, and post and rails, or a palisaded fence preferable, split larch, avoiding that which is too young and quickly grown for rails, and good red deal posts, if acacia or Spanish chestnut are not to be procured. But the posts need not be too thick. Let the strength be laterally, so as not to weaken the post too much by making holes for the rails.—C. P. P.

I HAVE put up many hundreds of yards of continuous flat bar fencing which can erect 4 feet high, with five flat and one round top bar, and stand 18 3 feet apart, for about 2s. 3d. per yard, or 5-feet fence for 2s. 6d. This fence—if well painted in two coats of Hill & Smith's varnish, which should not be put on until six months after the fence is erected, and the first black iron scale rusted off—will last twenty years without repair—i.e., mine has. A Holly hedge, or, if speed is required, a Spruce Fir hedge well clipped inside, will afford as much shelter as a wall, and look neat. Or if you wish to make an impervious fence, a good Thorn hedge trimmed 2 feet higher than the iron will keep out an apple-stealing schoolboy, and that is a good deal; or if he gets in he cannot get out again, as you can neither get through nor over (if the Thorn fence is really well done) from the Thorn side.

Every bar of my fence in each standard is keyed, and each bar riveted to the next. If the fence is well put up the heaviest cattle cannot stir it. It is elastic, and stiff as a wall at the same time.—T. J. LEVETT.

MANETTI VERSUS SEEDLING BRIAR STOCK.

YOUR correspondent, "W. C. A.," asks, How is it the Manetti stock has fallen into such disrepute? I answer for myself—and I believe many others will say the same—because I obtain better blooms on the seedling Briar. My soil being naturally thin and hot I excavate beds about $2\frac{1}{2}$ feet deep, putting a layer of stiff clayey soil on the bottom about 6 inches deep, and then fill up with good loam taken from a neighbouring bullock pasture, adding but little manure to the soil at the time of planting, but giving a good mulch of cow and pig manure when the beds are finished. In the spring, about March, this is pricked in with a fork, but not deep enough to disturb the roots of the Roses. I followed this plan with the Manetti for about ten years, but my blooms were always thin and did not stand well in a hot tent. I then heard of the seedling Briar, and sent to Mr. George Prince for a bundle, and they came—grand robust-looking fellows. I subjected them to the same treatment, and my blooms are now much better and have won many prizes this year. If we could only procure the seedling Briar at the same price as Manetti are offered at in your columns I feel sure the Manetti would sink into the shade. I have tried to bud the seedling Briar, but with very partial success, and I prefer sending to Oxford for plants. I wonder whether "WYLD SAVAGE" has ever tried them. I commend them to his notice. Mine have never suffered much from frost. I always plant them just like the Manetti, covering the worked part with soil about 3 inches. Another objection to the Manetti with me was that when I planted a bed I always found a number of gaps in the following year; this has never happened with the seedling Briar.

I have never tried Briar cuttings. Will some of your correspondents kindly tell me how to manage them? Are they budded on the main stem or on the side shoots like the hedge Briar? One thing more about the Manetti. Singular to say

I never could get any good blooms from my maidens. I had shoots sometimes a yard long, but the blooms on the top were ragged and rough and unfit for exhibition. I may have been wrong in my treatment, but I certainly succeed better with the seedling Briar, and the public generally seem to appreciate them, for I happen to know that Mr. Prince has more orders than he can easily execute. I shall certainly discard my Manettis—about two thousand in number—and go in entirely for the seedling Briar; but £50 a thousand is rather a stiff price.—W. H. J.

CHRYSANTHEMUM SHOWS.

LIVERPOOL.

THIS Society held their winter Exhibition in St. George's Hall on the 20th inst., and was in every respect a great success. Notwithstanding the weather being dull and foggy, accompanied by a sharp, cutting, easterly wind, there was never perhaps a greater assemblage of influential visitors seen in St. George's Hall at any former winter exhibition. As a whole the quantity and quality of the exhibits were quite up to the standard of previous years and in many respects much superior. The cut-bloom classes possessed extraordinary interest, owing to an enlargement in the competition, which was produced by the gardeners of Liverpool subscribing about £10, which was offered in three special prizes for twenty-four cut blooms of large-flowering Chrysanthemums, for which seven lots were staged, one being from Wimbledon, Surrey, and another from the neighbourhood of Wolverhampton, but both were nowhere in the race. The first prize was nobly won by Mr. Tunnington, gardener to Charles McIver, Esq., with a stand of neat well-finished blooms; the second prize was awarded to Mr. Peerse, gardener to R. Raynor, Esq.; and the third to Mr. Elliott, gardener to W. G. Bateson, Esq. Mr. Peerse's blooms were probably the largest ever seen, but coarse in comparison with the third-prize collection. The leading varieties in these three stands were Queen of England, Jardin des Plantes, splendid blooms both bronze and yellow; Empress of India, Golden Empress, John Salter, Princess of Wales, Prince Alfred, Emily Dale, Inner Temple, Fingal, Faust, Golden Beverley, Barbara, Baron Beust, Beauty, Mrs. Heale, Lady Hardinge, Nil Desperandum, Miss Mary Morgan, Countess of Dudley, Eve, Guernsey Nugget, Lady Talfourd, White Globe, Sir Stafford Carey, Mrs. Dixon, Beethoven, Isabella Bott, Cherub, and Lady Slade.

In the classes for eighteen and twelve blooms there was a keen competition. Mr. Knott, gardener to C. Coltart, Esq., was placed first in the eighteen, and Mr. Todd, gardener to J. W. Cropper, Esq., was awarded first in twelve. Both stands contained very meritorious blooms, and bore signs of superior culture. Mr. Tunnington exhibited a stand of Japanese varieties of Chrysanthemum, which were much admired, being a new feature at Liverpool.

In trained specimens, either Pompon or large-flowering, there were little or no specialities, all being trained in the old flat style except one lot exhibited by Mr. Hughes, gardener to R. G. Moran, Esq., which were more conical in shape than formerly, and although only being awarded second prize, they were healthy well-bloomed specimens, particularly Barbara, Fingal, and King of Crimson.

Foliage and flowering plants were well represented. In the class for ten Mr. Peerse was placed first, and Mr. B. Cromwell, gardener to T. Moss, Esq., came in very closely second. Stove and greenhouse Ferns were keenly contested. In the class for six there were seven competitors. Mr. Elliott secured first honours and Mr. Cromwell second. Primulas and Poinsettias were numerous and healthy; Roman Hyacinths were very inferior compared with what we have seen at previous exhibitions. In hand bouquets the quantity was great and quality excellent. Mr. Turner, St. John's Market, carried off the first prize, and Messrs. Davis & Co. of Wavertree second.

Fruit was not very plentiful, but the quality was good. For the first prize in Pine Apples there was a close race between Mr. Tunnington and Mr. Jamieson, gardener to the Earl of Balcarris, Haigh Hall, Wigan, but the prize was awarded to Mr. Tunnington; both exhibitors staged very meritorious specimens. Grapes were very good, particularly the fine bunches of Barbarossa exhibited by Mr. Playfair, gardener to H. H. Nicholson, Esq. In the collection of twelve dishes of fruit Mr. McMaster, gardener to W. Just, Esq., was first, and Mr. Mease, gardener to C. W. Neuman, Esq., second. In the class for six dishes Mr. Hinds, gardener to Sir T. E. Moss, was first, his collection including a dish of large highly coloured ripe Strawberries, which reflected great credit on the skilful cultivator.

A decided improvement in the Exhibition this year was the plan of arranging the plants for effect. The stages which at former exhibitions occupied the centre of the Hall were done away with, and a plan composed of five octagon beds was marked out on the floor by wooden edgings 4 or 5 inches high covered with green baize, the centre of each octagon being filled with the largest Ferns and Palms, surrounded with the smaller plants and specimen Chrysanthemums. The effect produced reminded us of

a well-arranged subtropical garden. The Exhibition upon the whole was a great success, and in congratulating the Secretary and Committee we hope their exertions this year will lead to a still more successful future.

KINGSTON-ON-THAMES.

The Kingston and Surbiton Chrysanthemum Society held their Show in the Drill Hall, Kingston, on the 21st and 22nd inst., and we do not hesitate to pronounce it the best show of the season—a great honour, considering that the Society has not been established two years. The Hall, one of the largest structures in Surrey, was full to overflowing. In the whole of the great collection there was not a badly flowered plant or an unsightly flower, consequently many a good exhibitor was unable to command a prize. The arrangements were tastefully and satisfactorily carried out by the Secretary, Mr. Jackson, jun., ably assisted by his coadjutors Messrs. Puttock and Sheppard.

The schedule comprised thirty-seven classes, twenty-six of which were open to all. Prizes were also offered for groups of miscellaneous plants and for collections of Chrysanthemums, which were arranged in semicircles along the sides of the building, while the cut blooms occupied four tables each 40 feet in length, the collections of dinner-table plants being arranged down the centre of each table between the blooms, the whole producing a beautiful appearance: 1164 cut flowers were staged, 250 of which were Japanese blooms, and the brilliancy and softness of colour of the latter far surpassed the effect produced by the incurred flowers.

The miscellaneous groups of plants were arranged at the foot of the orchestra, the prizes falling to Mr. Buckland, gardener to Mrs. Hodgson, Norbiton Park; Mr. Attrill, gardener to C. J. Freake, Esq., Bank Grove; and Mr. Watson, Surbiton, in the order named. In the class for groups of Chrysanthemums Mr. Lyne, gardener to L. Schlusser, Esq., Belvedere, Wimbledon, won the premier place with plants exhibiting very good quality. Mr. Bond, gardener to Mrs. Beckford, Ham, received the second prize; Mr. James, gardener to W. Farnell-Watson, Esq., Isleworth, the third; and Mr. Levesley, Spring Grove, Isleworth, was awarded an extra prize. Seven collections were arranged. For six trained specimens Mr. Beckett, gardener to J. McConnell, Esq., Esher, obtained the first prize with large and well-flowered plants of Venus, Mr. G. Glenny, Mrs. G. Rundle, Hereward, Mrs. Dixon, and Lady Hardinge. Mr. J. Levesley was placed second, and Mr. Cornhill third. Mr. James also exhibited a grand lot in this class which at many shows would have taken a first prize. In the corresponding class for threes Mr. W. Burns, gardener to W. A. Rigg, Esq., Hersham, Mr. R. Watson, and R. Nagle, Esq., were placed first, second, and third respectively; while the prizes for three standards went in the following order to Messrs. Cornhill, Beckett, and Ploughman. Mr. Beckett was first with a single specimen of Prince of Wales, Mr. J. Levesley second with Jardin des Plantes, and Mr. W. Burns third with Mr. G. Glenny.

Pompon varieties were grandly exhibited, and the first prize for six was deservedly awarded to Mr. James for a collection which rivalled the first-prize-and-cup group at the Westminster Aquarium. The varieties were Mdlle. Marthe, Mr. Astie, Mrs. Hutt, St. Michael, Jane Darnley, and Prince Victor. Mr. J. Levesley exhibited well, and was awarded the second prize. Mr. Cornhill was placed third. In the class for threes Mr. Masters, gardener to F. Day, Esq., Oatlands Park, and Mr. Watson, gardener to T. H. Bryant, Esq., were the only exhibitors, and were placed first and second respectively; and for a single specimen Pompon Mr. James, Mr. Levesley, and Mr. Lyne were placed in the order named. For three standards Mr. Ploughman was first, Mr. Cornhill second, and Mr. Lyne third, all exhibiting well.

Cut blooms incurred.—For twenty-four blooms, distinct, the first prize (a silver cup) was awarded to Mr. G. Harding, gardener to T. O. Galpin, Esq., Bristol House, Putney Heath, for a splendid collection consisting of Queen of England, John Salter, Golden Queen of England, Prince Alfred, Empress of India, Mr. Brunlees, Guernsey Nugget, Alfred Salter, Themis, Mrs. Haliburton, Faust, Golden Dr. Brock, Yellow Perfection, Venus, Beauty, Jardin des Plantes, Novelty, Barbara, Mrs. G. Rundle, Princess Teck, Golden John Salter, Lady Hardinge, Antonelli, and G. Glenny; Mr. Hinnell, gardener to F. Davis, Esq. (the President of the Society), was placed second with very fine blooms; and Mr. Reynolds, Weybridge, third. There were eight competitors. A special class was provided for twenty-four incurred blooms, the first and second prize contributed by S. Page, Esq. There were seven collections. Mr. Croxford, gardener to Mrs. Dunnage, Surbiton, and Mr. McPherson were first and second respectively, both exhibiting well. In the class for twelve blooms twelve collections were staged, and Mr. Higgs, gardener to Mrs. Bryant, Surbiton, was awarded the first prize. His stand comprised White Venus, Rev. J. Dix, Prince of Wales, Princess of Wales, Cherub, Lady Hardinge, Golden Beverley, Princess of Teck, Lady Talfourd, St. Patrick, and G. Glenny. There were several collections of six blooms, and Messrs. Beard, Kendall, and Burnett were placed in the order of their names.

Japanese.—These were splendid. Eight collections of twenty-four blooms, all fine exhibition flowers. Mr. Beckett won first

honours with the finest collection that has ever been staged; the blooms measured from 6 to 9 inches diameter, and comprised Fair Maid of Guernsey, Bronze Dragon, Dr. Masters, Grandiflora, Red Dragon, The Daimio, Baron de Prailly, Fulton, Striatum, La Nymph of extraordinary size, The Sultan, Gloire de Toulouse, Red Indian, Meg Merrilees, Fulgore, and Ne Plus Ultra; Mr. Ploughman was awarded second honours with a remarkably good collection; and Mr. Masters third. Several collections of twelve Japanese blooms were staged. Mr. Watson secured the first place, having, among others, a fine bloom of The Khedive; Mr. Jordan was second with a good lot; and Mr. Burns third. In the sixes Mr. A. Nagle, Mr. P. F. Sutton, and Mr. Benson were placed first, second, and third respectively.

The best stand of reflexed varieties was composed of Chevalier Domage, Golden Christine, Garibaldi, Cloth of Gold, Progne, Ariadne, Beauté du Nord, Mazeppa, Mrs. Forsyth, and Felicity exhibited by Mr. Ploughman; Mr. R. Watson was placed second, and Mr. Harding third; and for twelve Anemones Messrs. Masters, Cornhill, and Watson were placed in the order named. Mr. Lyne was first in the class for twelve Pompons, and Mr. Watson second. The principal contributors among the amateurs were Messrs. Drewitt, Nagle, and Sutton, who all exhibited well.

Numerous collections of dinner-table plants were contributed. The first prize was awarded to Mr. Bates, gardener to W. Punchard, Esq., Twickenham; the second to Mr. Jordan, Wimbledon; and the third to Mr. Beckett, all exhibiting collections of high quality. Chinese Primulas, Cyclamens, Poinsettias, and berried plants were contributed by Messrs. Beckett, Beard, Kent, Watson, and Hinnell, who were the principal prizetakers.

Several good collections of fruit were also staged, especially by Mr. Child, Mr. Baker, Mr. Beard, and Mr. Cornhill; and Messrs. Jackson & Son contributed several boxes of cut blooms of Chrysanthemums, principally of new varieties.

GRAVESEND.

The fifth annual Show was held in the Milton Hall on November 19th and 20th. The quality generally of the exhibits presented a very marked improvement on those of previous years, some of the specimens being particularly good. The method adopted of giving prizes according to the number of points obtained, and in proportion to the amount of subscriptions received and money taken at the doors, is worthy of being imitated not only at Chrysanthemum shows, but also at other shows held earlier in the season. It is a well-known fact that many horticultural societies collapse for want of funds. If, however, societies adopted the plan followed at Gravesend this much-to-be-regretted occurrence would be avoided.

The various classes in the Show were all filled. Only in one instance was it found advisable to withhold the first prize. Amateurs showed in a very creditable manner—namely, Messrs. Carpenter, Dunk, and Bardoe. In the gardeners' class for four dwarf-trained large-flowering varieties Mr. R. Phillips, gardener to Capt. Jackson, Meopham, was first with good specimens of Mrs. Forsyth, Mrs. Sharpe, Mrs. G. Rundle, and Gloria Mundi. Had the plant of Venus staged in the second-prize collection by Mr. Lamkin, gardener to J. S. Dismore, Esq., Gravesend, been sufficiently in bloom the positions would have been reversed, his plants of Prince of Wales, Mr. G. Glenny, and Sir Stafford Carey being very superior. Mr. Lamkin was first for two dwarf-trained plants with Dr. Sharpe and Golden Hermione, and also for four standards with Lord Derby, Lady Hardinge, Mrs. G. Rundle, and Mrs. Dixon. For two standards Mr. J. Boulton, gardener to R. A. Gibbons, Esq., Northfleet, was first with Mrs. G. Rundle and Mr. G. Glenny. The single specimen dwarf-trained and pyramid classes were very good. Mr. Lamkin was first in both classes, in the former staging a remarkably fine well-flowered specimen fully 5 feet in diameter of Mrs. Dixon, and in the latter a good plant of Mr. G. Glenny. The same exhibitor was also first for four dwarf-trained Pompons with Antonius, Mdle. Marthé, Cidonia, and White Cedo Nulli, also for a single specimen pyramid. Mr. J. Boulton was first for four and also for two standard Pompons.

There was a good display of cut blooms. Mr. G. Pender, gardener to S. C. Umfreville, Esq., Greenhithe, and Mr. J. Boulton each took three prizes, the former for twenty-four and twelve incurved varieties, among which were good blooms of Princess Teck, Beethoven, Guernsey Nugget, Eve, Empress of India, Prince of Wales, Mrs. Haliburton, &c., and for twelve Japanese varieties; these included fine blooms of Dr. Masters, Baron de Prailly, Hero of Magdala, Alfred Salter, and Fair Maid of Guernsey. Mr. Boulton was first for twelve reflexed, twelve large Anemone-flowering, and twelve bunches of Anemone Pompons.

Mr. Wright, gardener to E. Bryant, Esq., Gravesend, was first for a collection of fruit, consisting principally of excellent dishes of Apples, Pears, and Grapes, and also for three bunches of Grapes, with very creditable well-coloured Mrs. Pince's Muscats. Collections of vegetables were well shown. Mr. J. Pope, gardener to J. Russell, Esq., was first, closely followed by Mr. J. Fielder and Mr. R. Phillips, who were placed equal second. Mr. Beazley exhibited a monster Gourd weighing 84 lbs., and Mr. J. Coombes, nurseryman and seedsman, Gravesend, an attractive group of plants, fruit, and artificially coloured grasses and flowers. The

Show was well arranged, and reflected great credit on the Secretary (Mr. Wright) and the Committee.

MAIDSTONE.

Under the auspices of the Maidstone and Mid-Kent Chrysanthemum and Fruit Club the annual Exhibition was recently held in the Corn Exchange and Concert Hall, and the exhibits, which were numerous, exceeded in point of merit any show that has taken place in the town during the present year. The schedule was a liberal one, and included two handsome cups—one given by Viscount Holmesdale and Sir W. Hart Dyke, Bart., and the other by Major Ross and Captain Aylmer. These were won by the Rev. Stuart Robson, and the silver cup given by the Society was carried off by the Rev. C. Shepherd. There were other exhibitors not far behind the above. These were Mr. S. Davies, F. Pine, Esq., J. W. Braddick, Esq., and R. Whibley, Esq. The specimen plants, both standards and bush-trained, were nearly perfect in every instance, while the cut blooms for size, symmetry, and colour were difficult to surpass; indeed, it must be very gratifying to those who have had the working-up of this Society, which is yet in its infancy, to see their labours prove so successful in the advancement of the cultivation of a flower which has for years been somewhat in the background in the district.

The display of fruits was equal to what might be expected from the county, all being first-class in quality, and contributed a fine feature to the Show. The black Grapes from Lady Mostyn, and the white Grapes from Mr. Douglas and others, were the admiration of all. The Apples and Pears sent by Roger Leigh, Esq., L. A. Killick, Esq., and Mr. Skinner, as well as vegetables by Mr. Killick, were excellent. There was a full complement of miscellaneous plants sent by gentlemen not for competition, which, when interspersed among the stands of cut flowers and fruit, added greatly to the beauty of the Exhibition.

CHELMSFORD.

After a lapse of twelve years the Chelmsford and Essex Horticultural Society have resumed their Chrysanthemum Show, which was held on the 20th inst. The Show, which was a good one, was held in the Corn Exchange and was largely attended. Messrs. Saltmarsh & Sons were the most successful exhibitors, both their plants and cut blooms being highly meritorious. Amongst amateurs Mr. Tunbridge, gardener to W. Bott, Esq., Broomfield; Mr. Kemp, gardener to James Christy, Esq., Roxwell; and Mr. Smale, gardener to Robert Woodhouse, Esq., Writtle, staged very good specimens. Cut blooms of Pompons were not good, neither were the stove and greenhouse plants. Ornamental-foliaged plants were creditably exhibited by Mr. H. Clements, Mr. T. Harris, and Mr. J. Burrell, who secured the prizes in the order named. Mr. Southgate, gardener to Alfred May, Esq., Chelmsford, exhibited excellent fruit, his Grapes being particularly good. Mr. Clements and Mr. Lay, gardener to C. H. Gray, Esq., Chelmsford, also took prizes for Grapes. Of Apples and Pears there was an excellent display. Mr. James Clark, Writtle, exhibited fifty varieties, for which he was awarded an extra prize. Messrs. Saltmarsh & Sons also exhibited (not for competition) seventy-two dishes of Apples and Pears. Mr. Carver, gardener to the Bishop of St. Alban's, had also good Apples and Pears. Mr. P. Edwards and the industrious Committee contributed much to the success of the Show.

GLOXINIA-GROWING MADE EASY—PLANT PITS.

VARIOUS guides and catalogues are occasionally sent to me many containing long lists and cultural directions for growing this attractive plant. Almost invariably it is stated, "Given a sufficiency of heat and success is easy," and what this sufficiency is another puts in these words, "Gloxinias only thrive well with a bottom heat of 65°, going up to 85°," and so on. I have grown a considerable number of plants during the past year, and have proved that no such high temperature was indispensable or even desirable. In the following brief observations I propose to refer to a few varieties, how I grew them, and what has been the result.

Many of my corms were young, some grown from the leaf-stalks of the previous year—none old; principally Aida, purple rose, shading to blue; Duke of Edinburgh, throat bluish purple, shading to maroon; Esperanza, shaded rose; Princess Royal, throat dark blue, with white tube; with Skeltoni and some other distinct colours. Many of them were upwards of 22 inches across, and produced a great number of flowers in succession, some continuing until the middle of November without any extra heat. They were grown in a moist plant pit, which I shall now describe and recommend. The pit is made like an ordinary frame, but has a shelf around it for small and special plants which require less moisture and do best near the glass. It is facing south, and raised behind to catch every ray of sunlight. In summer the shade afforded by this shelf is found very desirable for cuttings and young tender plants. I find Cyclamens, Gesneras, Achimenes, and many allied plants

in their earlier stages during summer and autumn do remarkably well so circumstanced, and consider it the *best* ideal structure for Primulas, Cinerarias, and Calceolarias, I specially mention this shelf convenience because I have not hitherto seen anything similar, and I have proved its utility. The dimensions of the pit should be to suit circumstances—if too deep it is inconvenient to reach, and in winter and spring the plants become too much shaded when every ray of light should be utilised, and if too large the lights would be difficult to move. At the bottom of this pit, for temporary forcing purposes, I placed 6 or 8 inches of stable manure. I say temporary, for the heat from such a quantity will only last a few weeks; but these few weeks generally answer for striking cuttings and raising plants from seeds. The temperature is regulated by raising the lights by means of a graduated ratchet, which I can lock when so raised. In this inexpensive and useful structure I grew the aforementioned fine specimens of Gloxinias, and many other tender plants generally only to be seen in stoves or forcing houses. I attribute much of the rude health of the plants to the presence of ammonia in the atmosphere of this plant pit.

If these few observations will induce any who appreciate this splendid flower to give it thus a trial I feel assured success will be easily attained.
—W. J. M., *Clonmel*.

CARPET BEDS.

INQUIRIES for designs for carpet beds and modes of planting them effectively are so frequent that we purpose—while there is yet abundance of time for preparing plants and making arrangements for next year's display—submitting a few good examples of carpet beds that were so much admired in the London parks during the past summer.

The bed of which a diagram is given was one of the finest of a very excellent series of beds that were arranged in Victoria Park. The bed was probably rendered additionally imposing by its size—between 20 and 30 feet in diameter—but the pattern can be carried out on almost any desired scale. The bed, as all carpet beds should be, was raised nearly a foot above the level of the lawn, and the surface of the bed was raised in tiers or graduated terraces. For instance, the outer groundwork of *Mentha* (10) was nearly level, still slightly sloping upwards to the next groundwork (4) of *Sedum* glaucum, and again raised still higher was the central groundwork of the dark olive green *Herniaria glabra*. These masses of neutral colours were separated by bright dividing lines. Those radiating from the centre, triple lines, represent a row of *Alternanthera* margined with *Echeverias*, and the outside margin *Sedum* glaucum between two rows of the same succulent. The circles (5) in the elliptical groundwork denote *Chamaepuce diacantha*, and the smaller dots (7) *Sempervivum tabulaforme*. The circles (9) in the *Mentha* each contained a fine plant of *Chamaepuce Cassabonæ*. These with the central *Agave* rising boldly above the smooth surface imparted to the bed a very unique appearance, hence they are specially referred to; and the small cushions of *Alternanthera* (8-11) in the *Mentha* had an excellent effect. It will be observed that the greater portion of the plants employed are hardy or nearly so, the only really tender being *Alternantheras*.

THE SEASON IN THE NORTH.

WE are still favoured with a few relics of what has been, on the whole, an excellent season for the florists. With the Grampians in full view, for some time clad in snow, my garden is still dotted with East Lothian Stocks, red, white,

and purple; Pansies, show and fancy; Mignonette, and double Primroses in three colours. To-day (the 18th) I have fair flowers, for the season, of some Roses—Abel Grand, Antoine Mouton, Cheshunt Hybrid, Maurice Bernardin, Souvenir de la Malmaison, and the unfailing "Glory." Homère on a south wall still displays a few blooms. This plant has been laden with flowers throughout the season, and seems determined to be the last to leave the field as it was about the first to enter it.

From no source has more pleasure been derived this year than from Gladioli; all the varieties have flowered, which was not the case last year. The plants, too, have been strong, and the colours well up; but of some varieties the corms are not turning out as could have been wished. Among others are L'Unique Violet, Madame Desportes, Meyerbeer, and Ondine. Of the first I cannot by experience say much, but the second frequently fails; Ondine is false as fair; and of Meyerbeer



Fig. 61.—Carpet Bed in Victoria Park.

- | | | |
|------------------------------|-----------------------------|----------------------------------|
| 1. Agaves. | 5. Chamaepuce diacantha. | 9. Chamaepuce Cassabonæ. |
| 2. Echeveria secunda glauca. | 6. Sedum glaucum. | 10. Mentha Pulegium gibraltaria. |
| 3. Golden Pyrethrum. | 7. Sempervivum tabulaforme. | 11. Alternanthera magnifica. |
| 4. Herniaria glabra. | 8. Alternanthera amœna. | |

neither a friend who grows Gladioluses extensively nor I have one sound root. A well-known grower declared one of my spikes to be the finest of that variety he had ever seen. I remember "D. Deal," mentioned in the Journal that Meyerbeer had one season failed largely with him. This is, however, easily replaced, and the satisfaction derived this season from the culture of these magnificent flowers counterbalances a few disappointments and losses. I think that the splendid stands exhibited this year at our northern shows should incite to a more general and extensive cultivation of the Gladiolus.—A NORTHERN AMATEUR.

EUCALYPTUS GLOBULUS.

IN reply to the question of "C. T." on page 368 with regard to the largest Eucalyptus globulus growing in England, I beg to say that the largest tree growing in Cornwall I believe to be at Penjerick. Miss Fox writes that her tree is about 45 feet high, and that it was planted about ten years ago. It seeded this summer, and I send you a small twig of the tree with the seed on it gathered a few weeks ago and not quite

ripe in consequence. I have a tree at Lamorran about 25 feet high four years from seed, and it has withstood two mild winters planted on an exposed hill, which I have found the best situation for these trees. I fear there is a mistaken notion abroad with regard to the hardness of *Eucalyptus globulus*. I have not found it hardy, or nearly so, in Cornwall. Some twenty years ago I received from a friend in Australia seed of all the *Eucalypti* growing there. I raised from it many hundred plants, but found all the Blue Gum died the first really hard winter. One kind, however—I forget which—lived longer, perhaps three or four years, but died when we had an exceptional winter.—J. T. BOSCAWEN.

The conical fruit, produced in the axils of the leaves, is three-quarters of an inch in length and half an inch in diameter, and when cut has a powerful aromatic odour.—EDS.]

VEGETABLES AT MESSRS. SUTTONS' AND CARTER'S ROOT SHOWS.

MESSRS. SUTTON & SONS.—Leaving to others the task of describing in the Home Farm department of the Journal the agricultural produce, I will confine my remarks to the collections of vegetables and Potatoes. Of these there was a very large number, and the quality was of great excellence. In the class for not less than twelve nor more than twenty varieties of Potatoes the first prize was awarded to C. Eyre, Esq. (gardener, Mr. Ross) for a remarkably even and fine collection of the following sorts—Excelsior, Yorkshire Hero, Snowflake, Main Crop, Climax, Garibaldi, Late Rose, Schoolmaster, Scotch Blue, Magnum Bonum, White Don, Ruby, Early Goodrich, Abraham Lincoln, Rector of Woodstock, Beauty of Hebron, Blanchard, Ashtop Fluke, International, and Lapstone. In other collections some other varieties were seen, amongst them Grampian, which seems likely to be a good variety. The prizes for eighteen tubers of Magnum Bonum brought together a very large collection of beautiful tubers. This variety seems to be a very great favourite. It is very prolific, and on most soils a very well-flavoured Potato. Messrs. Sutton exhibited a dish of their new Potato to be sent out next year—Woodstock Kidney, a very excellent Potato as I can bear witness to, having not only seen but eaten it; and this is after all the true test. A Potato may be very handsome like International, but at the same time be utterly useless on the table. Woodstock Kidney is both handsome and good.

There were some excellent entries of vegetables, but that sent by Mr. Wildsmith, gardener to Lord Eversley, was a long way ahead of the others. All the varieties exhibited were excellent samples with the exception of the Cucumbers which were small, and the Carrots which were "grubby." The collection comprised Intermediate Carrot, Sutton's Sulham Prize Celery, American Red Stone Turnip, Brussels Sprouts (Sutton's Matchless), Dwarf Ulm Savoy, Veitch's Autumn Giant Cauliflower very beautiful, Sutton's Dwarf Red Beet, Trebons Onion very pretty, Student Parsnip, Asparagus excellent considering its earliness, and Tomatoes. The second-prize collection was very good and had, besides some of the above, King of Cauliflowers, Snowball Turnip, Colewort Cabbage, Golden Globe Savoy, and Henry's Prize Leek. The collections of Reading Onions (Sutton's) were very numerous and very fine, as were also those of Carrots and Parsnips. Some plants of Prince of Wales Tomato with its golden yellow pods placed along the centre of the tables where the vegetables were arranged had a very pleasing effect. Anything more complete than this arrangement or more conducive to the comfort of all concerned cannot possibly be imagined.—D., Deal.

MESSRS. CARTER & CO.—There was excellent competition for the prizes offered in the classes for vegetables offered at Messrs. Carter's Great Root Show held in the Agricultural Hall, London, November 25th. The quality of the exhibits generally was very superior to those staged last year, the only exception being the class for Onions. For a collection of twelve varieties of vegetables Mr. W. G. Pragnell, Sherborne Castle, Dorset, was first, exhibiting the following varieties in his well-known style—Tender-and-True Cucumber, Improved Spanish Onions, Pine Apple Beet, Imported Brussels Sprouts, Snowball Turnips, Ayton Castle Leeks, Matchless Red Celery, Schoolmaster Potatoes, Carter's Maltese Parsnips, Veitch's Autumn Giant Cauliflower, James' Intermediate Carrots, and Carter's Heartwell Cabbage. Mr. Iggulden, Orsett Hall, Romford, was a good second, closely followed by Mr. Neal, Bampton, Oxon, who was placed third, and Mr. J. Baker, Broad Street, Bampton, Oxon, fourth. Mr. Iggulden's collection included good Trophy Tomatoes, Veitch's Autumn Cauliflower, Snowball Turnips, Musselburgh Leeks, Snowflake Potatoes, Improved Banbury Onions, and Pine Apple Beet. Mr. Neal staged excellent James' Intermediate Carrots, Reading Onions, Vick's Criterion Tomatoes, Heartwell Cabbage, Carentan Leeks, &c.

For a collection of eight dishes of Potatoes there were fifteen entries, some of which, however, were rather inferior, but the class as a whole was a good one. The first-prize collection staged by Mr. J. Pink, Lees Court, Faversham, consisted of good examples

of Snowflake, Breadfruit, Brownell's Beauty, Red Fluke, Early Rose, Carter's Flourball, Ashtop Fluke, and Blanchard. The second prize was awarded to C. W. Howard, Esq., and the third to Mr. C. Ross, Welford Park, Newbury, both staging very good collections. Mr. Pragnell was first for twelve Onions, and Mr. Cave second. An account of the Root Show will be found in the columns devoted to agriculture and other pursuits.

NOTES AND GLEANINGS.

THE meetings and exhibitions of the ROYAL HORTICULTURAL SOCIETY for 1879 have been fixed as follows:—Meetings—January 4th, February 11th, March 11th and 25th, April 8th and 22nd, May 13th and 27th, June 10th and 24th, July 8th and 22nd, August 12th and 26th, September 16th, October 14th, November 18th, December 16th. Shows—Great Summer Show, May 27th to 30th; Whit-Monday popular Show, June 1st; Rose and Pelargonium Show, June 24th.

— WE are informed that the annual meeting of the NATIONAL ROSE SOCIETY will, by permission of the Committee of the Horticultural Club, be held at their rooms, Arundel Street, Strand, on Thursday, December 12th; and the anniversary dinner will take place on the same evening, when the Hon. and Rev. J. T. Boscawen, Vice-President of the Society, will preside.

— IT is with extreme regret that we record the death, which occurred on the 19th inst., of MR. JAMES McNAB of Edinburgh. Mr. McNab succeeded his father as Curator of the Botanic Garden at Edinburgh in 1848—a position which he filled with singular ability. The garden that was for thirty years under his charge has been rendered by the high qualifications of its lamented chief not only essentially instructive but highly ornamental. No one could visit the garden in which Mr. McNab spent the greater portion of his life as apprentice, foreman, and curator, without being struck by the great beauty and splendid cultivation of the Palms and the fine collections of Conifers and Alpine plants. These are living memorials of a man of great zeal and an accomplished scientific and practical horticulturist. Mr. McNab contributed largely to the horticultural literature of the period, and was the means of disseminating much valuable information on a variety of topics. He was born at Richmond in Surrey in 1810.

— MR. HANBURY of Poles writes to us from Bournemouth thus: "I am staying here, and have been much interested in seeing the beautiful specimens of *EUCALYPTUS* which are grown on the Branscombe estate in the neighbourhood. Many of them are 20 feet high and appear to be growing most luxuriantly. They are planted among the Fir trees."

— THE Committee of the ISLE OF THANET FLORAL AND HORTICULTURAL ASSOCIATION, feeling that some acknowledgment should be made to the Honorary Secretary Charles Dobson Smith, Esq., for his able, energetic, and successful exertions in its cause, have commenced a general subscription to present him with a suitable testimonial, and any sums large or small will be thankfully received by G. E. Hannam, Esq., President, Bromstone House, St. Peter's; W. Manser, Esq., Treasurer, The Coves, St. Peter's; Mr. E. Beaumont, The Parade, Margate; or Mr. H. Austin, jun., Garden Cottage, Fairfield, St. Peter's.

— MR. OGLE of Turnworth Gardens submits the following selection of ROSES for ORDINARY GARDEN DECORATION; they include Hybrid Perpetuals, Bourbons, and Teas:—Charles Lefebvre, Gloire de Dijon, Louis Van Houtte, Madame C. Joigneaux, Monsieur Noman, Duc de Rohan, John Hopper, Pierre Notting, Baronne de Rothschild, Caroline de Sansal, Glory of Waltham, Princess Mary of Cambridge, Eugène Appert, Baronne Prevost, Madame Cambacères, Madame Victor Verdier, Jules Margottin, Comtesse d'Oxford, Souvenir de la Reine d'Angleterre, Paul Neyron, Maréchal Vaillant, Star of Waltham, Général Jacqueminot, Annie Wood, Prince Camille de Rohan, Devonensis, La Ville de St. Denis, Edouard Morren, Marguerite de St. Amand, Baronne de Maynard, Géant des Batailles, Souvenir de la Malmaison, Céline Forestier, Beauty of Waltham, Duc de Wellington, and Lord Clyde. The above, our correspondent states, have proved their free-blooming qualities, and with good cultivation will be found all that can be desired for the purpose indicated.

— THE following are the descriptions of the JAPANESE CHRYSANTHEMUMS exhibited last week by Messrs. E. G. Henderson & Son at the Royal Aquarium, and to which certificates of merit were awarded:—M. Delaux, ruby crimson; form of

flower resembling Garnet; good. *Nuit d'Automne*, rosy crimson, reverse of petals pearly white; form of flower resembling *Fulgore*; distinct. *Rosa Bonheur*, very deep rose suffused with magenta; flower large, with round drooping petals. *Père Delaux*, colour bright chestnut; petals quilled at base; flower small, but very bright. These are promising varieties of a rapidly increasing section of *Chrysanthemums*.

— MR. MOULT of Ravensworth Castle recommends the *Tea Rose DUCHESS OF EDINBURGH* as a valuable variety for affording late bloom, which it continues producing for a long time if kept dry. It is found a good companion for *Mrs. Bosanquet* and *Souvenir de la Malmaison*. The two latter Mr. Moulton considers excellent autumn Roses, and their blooms associate well with *Chrysanthemums* for dinner table decoration.

— THE Hon. and Rev. J. T. Boscawen writes that he is glad "WYLD SAVAGE" had called the attention of the authorities of the NATIONAL ROSE SOCIETY to their duty in the matter of the fixtures of the local Rose shows, and suggests that the secretaries of the country Rose shows write as soon as possible to the Secretaries of the National Rose Society, naming the proposed date of their exhibitions, when no doubt some convenient arrangements will be made to suit all parties concerned.

— A GOOD gardener writes—"Mr. Campbell, Superintendent of the SOUTHPORT WINTER GARDENS, may be congratulated on the quality of the productions of the first *Chrysanthemum* and fruit Show which was held there on the 21st and 22nd inst., as both flowers and fruit were of very high quality. Amongst other flowering plants *Epiphyllum truncatum* *Russellianum* was extremely pretty and well flowered; also some pyramid plants of zonal *Geraniums* from the Botanical Gardens, which being so well flowered, they looked as if it might only have been the month of June instead of November."

— CONSIDERING how useful the brilliant old *SALVIA SPLENDENS* is for autumn and winter decoration, it is surprising that it is not grown in all gardens that have conveniences for autumn and winter flowers. No plant than this is better adapted for associating with *Chrysanthemums*, *Palms*, and ornamental-foliaged plants generally. A great advantage possessed by this *Salvia* is that it will flower equally well in a large or small state. A plant exhibited at the Putney Show last week by Mr. Pithers was about 4 feet high and through, and was a mass of brilliant scarlet. It was one amongst others that, we believe, had been planted out during the summer and potted in the autumn—a simple mode of culture that should insure for the plant a place in all gardens and conservatories. It is valuable also for affording a supply of cut flowers for vase decoration.

— WE recently admired a table of ZONAL PELARGONIUMS at Duneevan. This round table when furnished contains 180 small glasses, each containing a truss of flowers, the whole being arranged with great taste by Mr. McIntosh. During the winter this table is constantly rendered brilliant. The varieties grown include all the best raised by Dr. Denny, Mr. Pearson, and other raisers, and the effect produced by the various colours is extremely imposing. The brilliant group is also rendered instructive, for the names are attached to many of the varieties for the benefit of visitors who are not so well acquainted with them as is their patron—the President of the Pelargonium Society, who grows a very complete collection of these eminently useful plants.

— MR. M. TEMPLE writes in the "Gardener" as follows on *LOBELIA CARDINALIS* :—"This old plant, now seldom seen in quantity, has a splendid effect when grown in groups or lines in the herbaceous border. At an old place on the west coast of Wales I observed a number of plants mixed with *Pentstemons*, having a splendid effect. The *Lobelia's* colour is unique, and when used as a back line nothing in its way can surpass its brilliancy. When returning on my homeward journey I called at the gardens of Powis Castle, where I saw *L. cardinalis* in perfection. In the long herbaceous borders (which have such careful attention from Mr. Lee, the intelligent head gardener), this plant is growing in circular groups, at equal distances, of about ten or a dozen plants in each group. The effect is excellent—*Pentstemons*, *Phloxes*, and other contemporary flowering plants are in harmony with the *L. cardinalis*. Circular specimens of *Clematis Jackmani*, at equal distances in this border, were also very telling. The arrangement of these hardy plants on the terraces of this grand old place makes a most favourable contrast with the ordinary

bedding plants, and is much in character with the ancient buildings.

— THE yield of the CALIFORNIAN VINEYARDS for 1875 was about 8,000,000 gallons. That State has, says a transatlantic contemporary, land enough adapted to Grape culture to make as much wine as France, Germany, Hungary, and Spain combined could produce, and there is no doubt among those who have given the subject the closest study that California will in some future time outrank every other wine-growing region in the world. The foot hills of that State, which are held at one-tenth the price of land in France, have a vast productive capacity, and seldom fail to produce a good crop.

FISH IN A GARDEN AQUARIUM.

IN a former communication on aquatics I did not enter at all into the pleasure which possessors of even a small garden may derive from combining the use of the tank, or artificial pond, for their display with the culture of fish as objects of ornamentation or as pets. Both are compatible, while the daily interest of marking the progress and gradually expanding beauties of the plants and flowers will be greatly enhanced by the additional pleasure of noting the habits and history of their living associates. The former subserve the useful purposes of oxygenating the water and forming a pabulum for the aquatic molluscs and insect forms which are food for the latter, and which thus are prevented acquiring an injurious preponderance.

A few dozen of *Paludina vivipara*, a large dark periwinkle-like shell, ornamented with darker spiral bands; of the various species of *Planorbis*, popularly known by the name of Trumpet-shells, but which can be likened more exactly, so far as external form goes, to the extinct *Ammonites*, so common as fossils in the countries formed by the secondary formations; of *Lymnæa*, such as *Lymnæa peregrina*, *L. auricularis*; of *Luccinia putris* (or the amber snail), and of the liliputian freshwater cockle (*Cycas corneus*) will be sufficient if introduced in the spring time, and a little before the fish, to start a stock which the latter will never entirely eradicate.

These may all be readily procured in most of the ditches having access to the Thames, or in small natural ponds in the vicinity of London. They will of themselves afford considerable amusement in watching their development and habits, propagating freely during many months of the year by spawn deposited in gelatinous bands (some of extreme beauty) on the under side and stems of plants, growing rapidly, and dotting prettily in groups of all sizes the sides and bottom of the tank, or clambering about among the submerged leaves; some even, like the *Lymnæa stagnalis*, a large and very common species, which from its voracity is doubtfully worthy of introduction, skating or gliding body downwards along the underneath part of the surface of the water. Numerous insect forms will inevitably introduce themselves, either transported in the supply of water or entangled in the roots and attached mud of the plants which may have been procured from the neighbouring streams and ponds.

Various species of the *Ephemera*, &c., will be noted as having their successive and limited period of rising during the spring time; the burnished and sprightly *Libellula* will emerge and hover over in a beauty strangely contrasting with the hideousness of their larval condition. Water beetles of all sorts and sizes, both in their perfect state and in their transitional larval state; the so-called divers, swimmers, boatmen, and scorpion—all these will be noticed alternately basking and hunting through the water for prey with restless activity. The *Gyrinus natator* will be seen passing its existence in an endless mazy dance upon the surface with its fellows, while the *Hydrometra*, or Water-measurer, skips, skates, and slides over it by the aid of a special provision of floating foot supports with which it is provided. An infinity of *O. Nixæ* or water woodlice of various species, *Entomostraca*, minute bivalved crustacea, and of other minute and almost microscopic forms of aquatic animal life, will rapidly furnish additional sources of food supply to the fish, which are the subject for our next consideration.

The most suitable are the gold and silver carp, the English carp, the crucian carp, the tench, the perch, the gudgeon, and the minnow. The first are so well known that nothing need be said in respect to them; of the others all are easily fed, become tolerably tame, are hardy, will increase in size, and breed in ponds of even small dimensions.

The comparative shyness and tameness of fish are affected

by the amount of shelter they enjoy and the season of the year. The Crucian carp, which love so well to bask under the great Lily leaves during the hotter weather, spend also a large portion of their time beneath any artificial shelter which may be provided, and are in that case more sensitive of observation than they would be if entirely exposed.

Centre pieces of hollow rockery doubtless conduce to the comfort and welfare of the fish, but prevent them from becoming thoroughly familiar excepting for a portion of the year. During the winter the fish are comparatively torpid, feeding little, and only showing in the fairest weather.

With early spring they appear daily, and by the end of May or beginning of June have become perfectly tame, racing eagerly to be fed, and even seeming to show curiosity when the water is disturbed with the hand or otherwise. Now the male may be seen following the female, and the spawn is



Fig. 62.—*Erica exudans* (see page 411).

deposited, not in ribands or bands, but in countless scattered grains, apparently attached to and entangled amongst the filamentous confervæ and the complex leaping of *Cerastophyllum demersum*, &c. The young appear not to take more than a week or ten days in hatching (though on this point I admit that I need further observation), and would soon vastly outstock the capacity of the pond were it not for the havoc made amongst them by their rapacious insect enemies, of which some mention has been made above.

Immediately after spawning the parent fish become less and less-fold, and withdraw more and more from observation as the season advances. The Crucian carp is a handsome golden-yellow fish, and may be readily procured from 6 to 8 inches in length from any of the purveyors for aquariums.

The English carp is in habit much like the preceding, but is less easily tamed and less likely to breed. It can be added when a few large showy fish are required. All the carps thrive best (in addition to such food as they may naturally obtain) on boiled potatoes reduced to a mash; bread is objectionable, except in small quantities.

The tench is a very handsome bronze-yellow fish, somewhat shy, but fond (like the carp) of sheltering underneath broad leaves near the surface. In the winter they nestle right in amongst masses of confervæ or other weed, using it as we might a blanket for protection from the cold.

Both carp and tench thrive much more rapidly under a higher temperature than that of the external air; the former, as is well known, growing to large size in a few of the waters attached to factories in the north and heated by condensed waste steam. The latter I have experimented on myself in a tank of some size enclosed in a greenhouse and heated by hot water pipes to a temperature often ranging as high as 86° Fabr. Tench bred in this house became rapidly tame, darting eagerly forward to be fed, which was done at first with finely grated raw meat, and afterwards with large and small worms. One of these attained the length of 1 foot within fifteen months of being hatched.

The perch is a handsome bold fish, a little impatient of heat and exacting of air supply; with these care must be taken not to overcrowd the pond; they require feeding with worms, tadpoles, or small fry, and when liberally supplied will grow rapidly to a good size, even in a pond of small compass. As an illustration of this I may state that the whole of the perch now stocking so abundantly, and with fair fish, many of the Australian lakes and rivers were bred in the course of a few years from the descendants of fish exported from England a few inches in length, and raised in a small pond not exceeding 12 feet in the square in the garden of an enthusiastic pisciculturist, Mr. Allport of Hobart Town. These reached in the course of a year or two as much as 1 lb. and 1½ lb. in weight, and the rapid increase of their progeny may be inferred from the statement made some time back in Australian papers that several tons weight had been taken in one season by angling in the large lake adjacent to the town of Ballarat.

Gudgeons breed freely, but the adult fish are shy and rarely show. The small fry coast about during the first season in shoals near the margin of the pond, and are amusing from their vivacity. These, like perch, require frequent partial changing of the water during hot weather, which is easily effected when a tap is laid on. All the other fish can be retained in the same water without change all the year round provided that an abundance of plants are grown.—J. P.

SKIMMIA OBLATA.

RECENTLY in Mr. Shaw's nursery at Bowdon I had the pleasure of noticing a few small plants of this ornamental shrub in fine berry. They were not more than 6 inches high, each having three or four shoots. At this size the plants were extremely effective, and would be valuable for table decoration or for the front row in a show house. *Skimmia oblata* has very fine bright berries; they are much larger in size than those of *Skimmia japonica*—more like the *Aucuba* in that respect, and the berries are closer together in the head than they are on *japonica*. Anyone desirous of working up a select stock of berried plants for table or other purposes of decoration should, I suggest, include this plant in their list. There is also a variety of *S. oblata* with fine variegated foliage, which if well berried would have a pretty and novel appearance when in good form.—R. M.

OUR BORDER FLOWERS—CENTROCARPHA GRACILIS.

AMONG our many beautiful hardy perennial border flowering plants I have one under the name of *Centrocapha gracilis*. The plant is possessed of very attractive properties, is of good habit, attaining the height of 2 feet or more under some circumstances, and when established is very beautiful. At a distance it is one of the most telling plants I know of for open spaces in the shrubbery or any other place, but it must have light and air for its development. It will endure a good deal of rough usage and a considerable amount of drought without any apparent injury. It is perfectly at home in the herbaceous border.

I have an impression that it might be turned to good account for vases or pots for plunging in places where single specimens are required. Our plants commenced blooming in August and continued in great beauty until the November frost put an end to their beauty. They were admired by all who saw them. The ray-florets are a beautiful orange colour, the disc black, which is a fine contrast. It continues long in flower, and is

useful both for cutting and for exhibition. It thrives in ordinary garden soil, having a preference for good loam and efficient drainage. It is readily increased by division in the spring or autumn. It is the only plant I know under this name, but I am not able to find the name in any of the leading catalogues. I should esteem it a favour if you can inform me if it has a synonym.—*VERITAS*.

[*Centrocapha gracilis* is a North American herbaceous perennial, growing about a foot high. Some of the *Centrocaphas* are synonymous with *Rudbeckias*, and your plant is probably *Rudbeckia gracilis*.—*EDS.*]

CAPE HEATHS.—No. 11.

NOVEMBER.

THIS dull month does not favour the opening of many fresh kinds of *Ericas*. We have, however, the bright blooms of

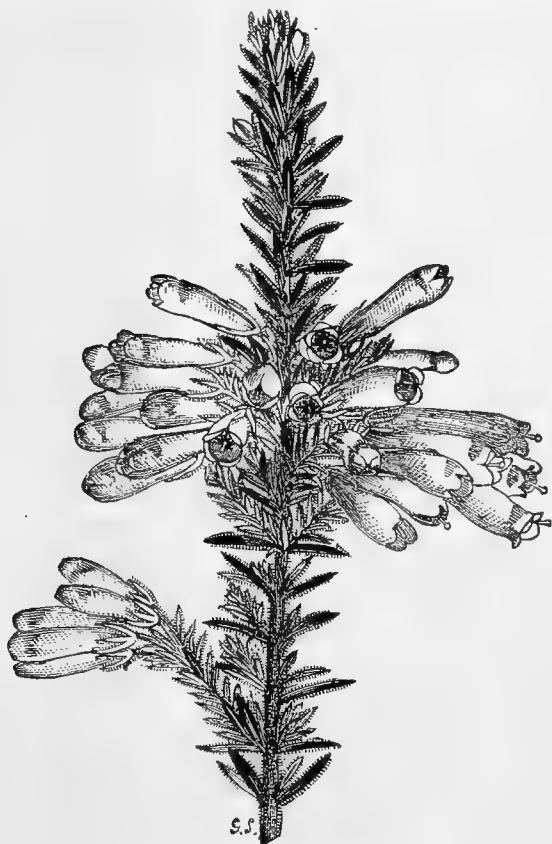


Fig. 63.—*Erica pellucida*.

E. gracilis still to form a pleasing contrast with the white and sweet-scented *caffra*; then again the ever beautiful *hyemalis* is now bursting into beauty. *Mutabilis* also begins again to put forth its bright flowers, whilst *tubiformis* seems to have re-awakened, and is now gay with its second crop of blooms; others, such as *taxifolia*, *grandinosa*, *verticillata*, *curviflora*, *lutea*, *colorans*, and *nitida*, are still yielding a supply of flowers, so that even now this family of plants can still hold their own amongst the pets of the greenhouse.

We have now the whole of these comfortably housed, and all we have to do whilst in their winter quarters is to keep them in a fresh free atmosphere, carefully watering them as they require it, to retain any that may have grown out of order, adjusting the shoots of those inclined to ramble, and keeping a sharp look-out for mildew, so that it does not gain a hold and work its mischief before detection. The following may be added to the list of kinds which bloom about this season:—

Erica evandans (fig. 62, page 410).—A showy kind having linear-obtusate leaves, which are hairy and of a clammy nature, arranged in fours, and dark green. Flowers terminal on the

small branches, mostly in fours, cylindrical, slightly curved, red; style exserted.

E. decora.—A pretty species. Leaves arranged in sixes, linear-obtusate. Flowers axillary, forming a long spike, bell-shaped, ribbed, light purple.

E. pellucida (fig. 63).—Leaves arranged in fours, bright green. Flowers in fours, in closely-set terminal bunches, clear white.

E. discolor.—Leaves arranged in threes, linear, smooth, and bright green; habit erect. Flowers terminal, in threes, tubular, red and green.

GARDENING AT CYFARTHFA CASTLE,

MERTHYR TYDVIL.

CYFARTHFA CASTLE is situated close to the greatest commercial centre in South Wales, Merthyr Tydvil. The elevation is some 700 feet above the sea, and in going up the valley from Neath to Merthyr some of the grandest scenery in South Wales may be seen, as the whole length of the valley abounds with mountains, woods, and rugged streams; but the scenery around Merthyr itself is not very attractive unless it is the monster iron works (now unfortunately at a standstill), belonging to the respected proprietor of Cyfarthfa. The garden, however, will well repay anyone going a long distance to see, as Vines, Pines, and Peaches are more extensively cultivated at Cyfarthfa than any other place I ever saw.

The fruit houses are about three dozen in number, and most of them are large, some of the vineries being over 100 feet in length and 20 feet wide. Some of the Pine stores are about the same size, and the Peach houses are still larger, one, if not more of them, being about 150 feet long. Respecting the Vines, a house has been erected specially for nearly every kind of Grape in cultivation; other houses are planted with all kinds of Grapes together. In this way the merits of all have been, and are, thoroughly tested, as particular treatment when necessary can easily be given to any kind of Grape by having it in a house by itself.

Black Hamburg has come out well under all kinds of treatment, consequently it is grown extensively. Vines in pots of this kind fruit in March, and Grapes are cut from the earliest vinery in April. Many of the Vines had been cleared of their crop at the time of our visit, but one span-roofed house particularly attracted our attention. The borders belonging to this house are inside; the Vines were rooted from eyes in the spring of 1877, and planted out in the borders about the month of July of the same year. This "planting in a growing state" seems to have agreed with them, as they made such strong canes up to the very top of the house last autumn that Mr. Battram did not cut them back at all, but left them as fruiting rods. The crop these have produced this year is still hanging, and a better crop of Hamburgs we never saw on Vines of any age. The four and five bunches on each Vine will average quite 4 lbs. each, and they are perfectly finished in every respect; many bunches of equal size were cut off, as Mr. Battram does not practise heavy cropping for a year or two, and crippling or killing the Vines, and throwing away and planting again. Indeed, the very opposite to this appears always to have been practised, as the majority of the Vine rods appear to be old. Mr. Battram attributes his success with these young Vines and all others more to abundant watering at the root than anything else, but no doubt this must be much assisted by the great attention given to all operations it is necessary to perform during their period of growth.

Muscat of Alexandria is next to the Hamburg in quality. Some houses filled with this fine Grape were perfect pictures to look at; not a single defect in "setting" could be detected in hundreds of bunches, and the form of the bunches and their colour were quite faultless. When thus cultivated Muscat of Alexandria is one of the noblest of all Grapes, but it is not the finest white Grape at Cyfarthfa; that honour must be awarded to Canon Hall Muscat. This is one of the parents of Golden Champion, and as fine a Grape to look at in size of berry, &c., but like its progeny the Canon Hall is not without its faults in the hands of many cultivators. The great difficulty is to induce it to set well and to swell evenly. Canon Hall Muscat is only grown as a single rod in many places, and not at all in others. At Cyfarthfa, however, there is a large house chiefly devoted to it, and it is cultivated to a state of perfection which I never saw equalled. The bunches were about as well furnished with berries as the finest formed bunch of Black Hamburgs, and the berries were of fine size and

colour. Its cultural requirements do not differ from that given to ordinary Grapes; it is only in "setting" it well that the whole secret to success lies, and this Mr. Battram overcomes through carefully fertilising the flowers. Anyone acquainted with this Grape will have observed that when the flowers are just ready for opening a little globe of glutinous matter holds the stamens together at the point. It is when the flower is held together in this way that the berries do not form, and it is by carefully brushing off these little globules with a feather that the berries form so well.

Gros Colman is grown in quantity, but its appearance is more favourable than its qualities, unless it is ripened early and allowed to hang late. Black Alicante is also grown extensively and well, and so is Lady Downe's; the bunches, berries, and indeed the whole crop of which was extremely fine. Duke of Buccleuch was planted on its first appearance in public, but although it has been tried with every attention in several houses it will neither grow nor fruit freely, and it is now put aside as a variety not worth extending. Golden Champion has been placed on the same list, but neither of them will be much missed with Canon Hall so fine. Madresfield Court has done well from the first, and Mr. Battram thinks very highly of it as a summer and autumn Grape; a quantity of it was hanging that had been ripe for a considerable time, yet it showed no signs of decay, and a few berries we tasted were quite firm. Most of the early Pine borders are inside, consequently no fermenting material is used at starting time, and it is considered that even with the borders outside this is unnecessary when the Vines are in good health. None of the borders are mulched or covered up at any time, but great quantities of water are given, and the surface is kept clean, free and open at all times. The strong wood, clean foliage, and heavy well-finished crops all indicate that this treatment may be strongly recommended. All the Grapes were remarkable for their fine bloom, the result of care being taken that the berries are not touched during thinning or rubbed afterwards. Many Vines in pots which were struck from eyes in the spring of 1877 were bearing about 12 lbs. of fine fruit each. Most of the kinds planted out are fruited in pots to fill up spare corners, and a few dozens are started early to fruit in March before the late ones are finished.

A stock of 1500 Pines are kept up, and about half this quantity fruit every year. Large houses are set apart for each kind. One house full of Black Jamaicas were all in fruit at different stages of development; 3, 4, and 5 lbs. is the general weights these attain, and for winter use it is considered the finest flavoured Pine extant. Many housefuls of Queens were coming forward for next spring and summer fruiting, and the fine state of the plants gave great promise of a heavy return. Some of the Providence and Black Prince varieties were bearing fruit 10 lbs. in weight, and Mr. Battram showed us photographs of former fruit weighing 11 and 12 lbs. It is indeed a gratifying sight to see such magnificent fruit. Many of the plants are grown in pots, and many are planted out in beds. Good yellow loam mixed with a little manure is what they are grown in, and after they are come into fruit guano water is plentifully supplied.

We were rather late for seeing the Peaches at their best, but the crops of former years were magnificent, and the trees are in as fine a state of health as ever they were. Figs bear great crops; the trees are planted out in the centre bed of a large span-roofed house. Winter Cucumbers are clean, healthy, and fruitful in pits, and Melons are grown in large quantities in low frames in the middle and end of the season, and in little span-roofed houses earlier.

Besides such quantities of fruit there are many large plant houses and frames containing choice collections of indoor plants all in fine health and growing luxuriantly. One very large house of Heaths is particularly noteworthy as containing such specimens of all the leading kinds of these fine plants as one has seldom the pleasure of seeing.

Out of doors the vegetable crops all looked well, but Cyfarthfa is not a place for fine shrubs. No kinds of Roses do well in the open air, and the choicer kinds of bedding plants do not succeed well either. The Pampas Grass was growing luxuriantly, however, and one of the houses in Merthyr was beautifully covered with the coral-berried Cotoneaster. It is surprising how all kinds of fruit and plants are brought to such perfection under glass in such a situation; it certainly proves that Mr. Battram is a master of his calling. It must be stated that through the much-lamented ill health of the proprietor the garden has lost its chief supporter and some of the

houses are in a dilapidated state. Let us hope, however, everything connected with this great garden may soon be restored and placed on an equal with the productions which few can have seen equalled and none surpassed.—M.

ROSE ELECTORS.

I MUST thank Mr. Hinton for his remarks in his "Rose Olla Podrida" upon what I have recently said in the *Journal of Horticulture*, but he has quite misunderstood me if he thought I wished to have an election of electors. I only want one amateur—say Rev. S. R. Hole, as President of the National Rose Society—to name six nurserymen, and let Mr. W. Paul as a non-exhibitor, or Mr. Charles Turner, name six amateurs who shall be noted exhibitors, and who are well known as competent authorities especially in the matter of new Roses. Many amateurs cannot afford space nor money nor time to try the newer Roses; yet with our past experience, and when we look back on the recent acquisitions of late years, it is to the interest of all rosarians to have some competent verdict on the newer introductions. Why I want both amateurs and nurserymen, and only a dozen, or say a baker's dozen, is that the raisers of Roses are too fond of their own children, and yet practical nurserymen have more varieties pass under their notice than amateurs, and have comparatively more opportunities of observation; though I say again that the amateur, with a more discriminating taste and judgment, and who rides perhaps only one hobby, is more disposed to make an impartial judgment, than one whose trade interests are at stake, and who must have many branches of his profession to carry on.

After Mr. Hinton's experience in the qualities of electors I would venture to lay before him, or say a meeting of the Committee of the National Rose Society, the names of twelve electors—half amateurs and half nurserymen—whose decisions would be accepted, and who, I think, would be willing to act. I am very glad to find that in nearly all points we are so much in accord.—C. P. PEACH.

DOES THE MANETTI THROW UP SUCKERS?

I ADD my testimony to the Rev. C. P. Peach's remarks on this subject. I do not remember to have seen a genuine root sucker attached to the Manetti, but have seen plenty of shoots from the stock, caused, I have no doubt, by careless people leaving the eyes in.

I have looked over all that have been prepared by myself or by the young man who assists me in this work, and there is not a sucker or shoot of any kind to be seen, while on looking over a flat of three thousand stocks budded this season which were bought I see numbers of shoots from the bottom of the stocks, and am convinced they are all from eyes that have not been properly cut out.

Is not the Rev. W. F. Radclyffe joking when he names six of our most vigorous Roses as growing well on the seedling Briar? What stock will not such Roses grow well on?—F. BOYES, *Beverley*.

WORK FOR THE WEEK.

HARDY FRUIT GARDEN.

THE early pruning of bush trees, such as Gooseberries, Currants, &c., as well as Apple, Pear, Plum, and Cherry trees, is desirable. The sooner such work is done after the leaves fall the more expeditiously it is performed. There is often, however, considerable damage done by birds, and where these are numerous and of a kind likely to prey upon the buds it may be a lessening of anxiety to defer pruning until spring, in the hope that there being more buds in an unpruned tree or bush than one pruned, there is likely to be more buds left on the former than latter. Unfortunately the birds appear to relish the plump fruit buds, not caring for the lean buds so long as fruit buds are obtainable; therefore it is questionable whether late pruning preserves the fruit buds and crops. Our experience is the other way, and we can only preserve the buds from bullfinches by employing the gun, it being astonishing what an extent of mischief a pair of these birds can effect in a short time. Pruning may be stated to consist in cutting off certain shoots or branches of a tree for the purpose of modifying its form, increasing its fertility, or stimulating particular parts to increased vigour. It is difficult to give instructions suitable alike for pruning all descriptions of trees, the difficulty being increased when dealing with those having little gardening experience. Generally we may say that Apples and Pears grown as pyramids should not be allowed to become too thick, not only as regards the spray but also the main branches, as the fruit buds require to

be freely exposed to light and air, the fruit attaining to fuller perfection when fully exposed. All the spray should be cut back to within an inch of its origin, presuming the shoots to be several inches in length, but if they are not more than an inch or two long they must not be shortened, as, though they may not be terminated by a fruit bud, such stubby shoots usually form spurs. The branches should be 12 inches apart, and in the case of trees not fully formed the lead should be cut back to 12 inches of the current year's growth, and the extremity of the side branches to about 6 inches, more or less, with a view to the symmetry of the trees. In the case of bushes it is best to allow them to carry strong branches from the base to the top, spurring or cutting in the side shoots so as to leave three buds or so, keeping the centre of the tree open. Plums and Cherries may be similarly treated. The best practitioners are averse to pruning in frosty weather. In making a cut the knife should pass through the wood close to the eye, leaving no portion of wood to die back. After pruning the surface soil may be scraped off and a top-dressing given of turfy loam and decayed manure in equal parts, or if the roots are near the surface a mulching of partially decayed manure may be given. There should be no attempt at digging or disturbing the roots, but rather make the surface firm if at all loose by treading it. Gooseberries and Currants should have all the side shoots cut back to within an inch of their base, keeping the centre of the bushes open and the branches from 9 to 12 inches distance apart. Full-sized bushes may have the leads spurred-in, but those admitting of extension may have the terminal shoots left from 6 to 9 inches in length according to their strength, and judiciously placed for the formation of the bushes. The soil may then be removed from around the stems to the extent of about 18 inches and down to the roots, and be left so for a few (three) weeks if the trees have suffered from attacks of caterpillars, then filling in with well-decayed manure, the spaces between the rows being manured and dug in, but not so deeply as to injure the roots. If the trees grow very vigorously prune less closely and omit the manure. Black Currants must not be spurred, but have the old wood well thinned out, encouraging the young growths. They, too, should have a good manuring, merely pointing it in near the stems, but somewhat deeper in the centre of the spaces between the rows.

FLOWER GARDEN.

All winter and spring bedding ought now to be finished, and the walks, edgings, and turf put in proper order for the winter. Beds or borders that are to remain unoccupied through the winter should now be manured and deeply dug or trenched as may be required, so as to afford the soil the full benefit of exposure to frost. This more particularly applies to ground intended for Hollyhocks, Dahlias, Gladioluses, &c., during the ensuing season. Gladioluses of the *Ramosus* section plant now 4 to 6 inches deep; Turban Ranunculuses plant 2 inches deep and 6 inches apart; also Anemones, except the choice varieties, which are best planted in early spring. The planting of all kinds of trees and shrubs should be pressed forward whenever the weather is favourable, avoiding work of this kind in very wet or frosty weather. Levelling, taking up, and relaying turf, with the making of new walks and alterations generally, should be proceeded with as rapidly as possible. Box edgings may now be replanted, but avoid cutting the Box, or it will be browned by frost. Keep leaves raked or swept up as they fall—a tiresome process, but one that pays from the value of the material for heating and compost-forming purposes. Admit air abundantly to all bedding plants in frames or pits whenever the weather permits, removing all decayed leaves, as at this season damp is the worst disaster befalling these plants. Great care is required among Echeverias, being careful not to over-water them; indeed these and all succulents should be kept near the glass, and as dry as possible without shrivelling. Agaves will exist a long time without water, but their leaves are not so long-lived as when water is duly supplied. Seeds of succulents, such as Echeverias, &c., may now be sown; also Centaureas, Acacias, Chamæpices, and others requiring a long time to make good plants for next season's bedding, they succeeding in a warm house, keeping the pots near the glass after the plants appear, watering carefully, or the seedlings will damp.

FRUIT HOUSES.

Cucumbers.—Cold weather necessitates sharp firing, which where there is little piping dries the atmosphere more than is good for the foliage, the fruits becoming stunted and swelling indifferently, and when the pipes are in close proximity to the roots the soil is dried too much for healthy growth. One of the greatest evils in all houses requiring to be kept at a high temperature is too little heating surface, the water requiring whenever the weather is severe to be kept up to near boiling point. Be careful in giving air, affording it, however, whenever a favourable opportunity offers, but exclude it when the external air is sharp and cold. In bright but cold weather turn off the top heat when the sun is powerful and likely to raise the temperature beyond 80°, in such weather damping the house morning and afternoon, closing early. Care must be exercised in damping so as not to wet the embryo fruits, or they will damp off. Water will be required at the roots about twice a week. A temperature of 60° to 65° at night and 70° to 75° by day is suitable. The winter fruiters or plants from

the August sowing and planted out in late September will have grown to the extent of the trellis, or nearly so. Unless there is undue vigour in the plants they should not be allowed fruit for a few weeks. Attend frequently to the stopping, thinning, and tying of the shoots, avoiding overcrowding and overcropping as the two greatest evils, subduing canker with quicklime well rubbed into the parts affected, removing every decayed leaf promptly. If mildew appear dust with flowers of sulphur, it being well to dust some over the leaves with a view to its prevention.

PLANT HOUSES.

Greenhouse.—If Lilioms have not been potted they should be attended to without further delay, as the early-flowering sorts—*L. auratum*, *L. speciosum*, and *L. longiflorum*—will by this time be pushing fresh fibres, and great injury results if these are disturbed. Potting, therefore, should be done so soon as the stems have died down. Remove the top soil down to the bulbs and any loose soil from amongst the roots, removing the drainage, and if increased pot room is required afford it, but avoid over-potting, it sufficing in most cases that the bulbs be returned to the same sized pot as before, clean and fresh drained. Place the bulbs sufficiently deep in the pots as to admit of the roots which form on the stem being covered with fresh rich compost in spring. About a fourth of the depth of the pots will be sufficient for that purpose. Good turfy loam with a third of well-decayed manure or leaf soil and a free admixture of sand is suitable. The pots may be plunged outdoors in a sheltered situation and be covered about 6 inches deep with cocoa refuse, but are preferably wintered in pits or frames. The soil should be kept moist, but avoid heavy waterings until the tops appear. If kept in a greenhouse assign them the coolest part. Lachenalias keep near the glass so as to prevent their foliage being drawn and to bring out the leaf-markings. All dwarf-growing plants should be kept as near the glass as practicable, and every opportunity should be taken of affording ventilation, giving no more water than to prevent flagging in the case of plants at all liable to damp-off, such as Primulas, Cyclamens, &c., but when the soil becomes dry water it thoroughly—dribbles are dangerous. Where it is desired to keep up a good display of bloom the temperature should be kept at 50° by day and 45° at night. Tuberous *Tropæolums* require to be kept near the glass and to have their shoots regularly trained, for if at all neglected they soon become an entangled mass. The bottom of the trellis must in all cases be well covered with the young shoots before they are allowed to ramble to the top, or there will be great difficulty in covering the lower part. Be careful in watering; the soil must be moist but not wet. Nothing contributes more to the appearance of plants than clean pots and clean surface soil. Fumigate upon the first appearance of aphids, and dust with flowers of sulphur any plants infested with mildew. Chrysanthemums will in many instances be plentifully furnished with suckers. The strongest should be taken off when from 2½ to 3 inches in length and with a small portion of root-stem. These should be inserted about half their length singly in 3-inch pots in a mixture of turfy loam, and a fourth of leaf soil, and a sixth of sand, watering and placing them in a cold frame, where they will root slowly but surely if kept moist to prevent flagging by exposure to bright sun. Afford protection in severe weather, avoiding anything approaching to coddling, and the plants will then be sturdy instead of drawn and weak.

Where large quantities of forced flowers are required a house or roomy pit should be set apart for the purpose, for where forcing has to be carried on in stoves the necessary conditions of light, air, heat, and moisture cannot be afforded the forced plants without interfering with the general stock. A low, light, well-ventilated house is particularly useful at this season of the year for forwarding such plants as *Azalea indica* vars., greenhouse *Rhododendrons*, *Bouvardias*, Tree Carnations, Pinks, Callas, *Daphne indica*, Cyclamens, and many others that require the temperature of an intermediate house to enable them to produce their flowers through the winter months. Abutilons and Zonal *Pelargoniums* require for continuity of flowering a house with a temperature of 50° to 55° by artificial means, with an advance to 65° by day.

TRADE CATALOGUES RECEIVED.

James Yates, Underbank, Stockport.—*Catalogue of Bulbs and Flower Plants.*

A. M. C. Jongkindt Coninck, Dedemswaart, Netherlands.—*List of Coniferae and Fruit Trees.*

Hippolyte Duval, à Montmorency (Seine et Ouse), France.—*General Catalogue of Roses.*

L. B. Case, Richmond, Ind., U.S.A.—*Botanical Index and List of Plants.*

TO CORRESPONDENTS.

* * All correspondences should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

NATIONAL ROSE SOCIETY (C. J. D.).—Write to the Rev. H. H. D'Ombraim, Westwell Vicarage, Ashford, Kent.

ROSES IN VINERY (R. T.).—There is no foundation for the statement that "Roses will communicate disease to Vines and plants." If the Roses are neglected and are permitted to become infested with aphids the insects will certainly spread to other plants, as they appear to have done in the case of your Calceolarias; but by judicious syringings and occasionally fumigating the house all the occupants of the structure may be kept healthy provided generally good cultivation is exercised. The Calceolaria leaves sent are slightly affected by insects. The plants have probably been kept in a too dry atmosphere during the early autumn months. Keep them free from insects and the roots active, and the plants ought to recover. The publication of this reply has been accidentally delayed.

RASPBERRY CANES (E. G.).—The Fastolf and Yellow Antwerp. Any nurseryman can supply them.

COKE FUMES (T. Ballard).—We do not know of anything that will absorb the fumes of coke burned in a hothouse. Troughs of water would absorb a little sulphurous acid, and quiklime some of the carbonic acid, but not so thoroughly as to preserve the plants from any injury.

DISSOLVING BONES (H. K. M.).—1 lb. of bones, 12 ozs. of oil of vitriol, and 12 ozs. of water mixed and left for twenty-four hours.

ERRATUM.—In the notice of Holey Hall on page 391 it was inadvertently stated that the houses were heated by Messrs. Walker & Emley instead of by Messrs. Dinning & Cooke of Percy Street, Newcastle, hot-water engineers of established reputation in that town.

ADDRESS (Mr. B., Liverpool).—Write to No. 3, Westminster Chamber, Victoria Street, London, S.W.

COTTAGE GARDENERS' DICTIONARY (P. Inghald).—You must write to the publishers, Messrs. Bell & Daldy.

PREPARING GROUND FOR ROSES (A. H.).—We should trench the ground quite 18 inches deep, turning in the turf, chopping it in pieces as the work proceeds. It should not be nearer the surface than 6 inches. Break up the subsoil deeply, but do not bring much of it to the surface. If the soil is good it ought to produce very fine roses.

LEAKAGE IN GREENHOUSE (Idem).—If during a dry day you rub some putty firmly between the squares from the outside, finishing it off smoothly, it will speedily set, and we think stop the leakage. When partly set the putty protruding on the inside of the house can be removed with a sharp knife.

ROOT-PRUNING FRUIT TREES (J. B.).—The best time for root-pruning is the present month. The best method depends on the condition of the trees and the skill of the operator. If you have had no experience in root-pruning, the best method for you to adopt will probably be to dig exactly half round the trees, as if commencing to dig them up, undermining them quite to the centre and cutting off the strong roots smoothly with a sharp knife at a distance from the trees of from 2 to 3 feet, according to their size. If that does not check their luxuriance sufficiently the other half of the trees can be treated in a similar manner next year. In replacing the soil round the roots press it rather firmly, selecting dry weather for doing the work. We do not approve of excessive root-pruning in the case of very small trees. If the branches of trees are sufficiently thin that every leaf can have light, fruit spurs usually form without the roots being greatly mutilated.

PLANTS UNHEALTHY (J. T.).—We think the plants were placed in the new house too soon and have been injured by the paint. Paint on the pipes is not injurious when it is perfectly set and sweet. With careful attention and good cultivation your plants will improve, and such others that are introduced now may be kept in good health.

EUCALYPTUS GLOBULUS (G. H. V.).—It is not at all unlikely that the tree to which you refer is *Eucalyptus globulus*. We know of several trees in the southern counties 18 feet high, but they would not have been so high had the two last winters been severe instead of mild. The leaves are only tinted with blue when in a young state. As the tree attains age the foliage changes both in form and colour. The leaf you have sent is very small.

STOVE (W. D. P.).—We are not in possession of information enabling us to answer your questions relative to the stove referred to being withdrawn from sale.

MUSHROOM BED NOT PROFITABLE (Inquirer, Manchester).—If the bed is really dry you had better give it a thorough watering with tepid water, and when the surface has become moderately dry cover it 4 or 5 inches thick with soft hay. The hay should be moved frequently to prevent its adhering to the soil. Apply the water at a temperature of about 85°.

WINTERING TYDEAS (Kittie).—Considering that you have only a greenhouse you have ordered the Tydeas, Gesneras, and Nægeliass too soon. You had better place the tubers in dry sandy soil, yet not absolutely dust dry, and place the pots in a warm position of your greenhouse. In the spring, when the temperature increases so that the house can be kept at about 60°, apply water sufficiently to keep the soil moderately moist, and as soon as signs of growth are apparent the tubers may be potted in a compost of peat, loam, and leaf soil in equal parts. You may place them singly in small pots, or three or more in pots of larger size. They are stove plants, but will thrive in a warm greenhouse. A heated cucumber frame would be of great assistance in starting them into growth in the spring. You will be fortunate, however, if you preserve all the tubers through the winter. Syringe the pots occasionally to prevent the soil becoming excessively dry, or the tubers will shrivel; if, on the other hand, it is too wet they will decay.

FERNs FOR ENTRANCE HALL (A Twenty-five-years Subscriber).—No plants endure so well as Palms, Aralias, Dracenas, foliage Begonias and other plants with persistent foliage. Ferns suitable for your purpose are *Blechnum occidentale*, *Doodia aspera monstrosa*, *Asplenium diversifolium*, *Pteris serrulata*, *P. serrulata cristata*, *P. cretica albo-lineata*, *Polypodium pectinatum*, *Phloxipolepis davallioides*, *N. pectinata*, *N. tuberosa*, *Platyloma Brownii*, *Pteris umbrosa*, *Lastrea decomposita*, *Cyrtomium falcatum*, *Adiantum*

formosum, *A. cuneatum*, *A. assimile*, *Asplenium præmorsum*, *Nephrodium molle corymbiferum*, *Lomaria gibba*, *L. Patersoni*, *L. L'Herminieri*, and *L. discolor bipinnatifida*.

CHARRING HEDGE TRIMMINGS (B.).—The only way to form them into charcoal is to stack the trimmings, forming a pyramidal pile, and cover it with turves both at the sides, ends, and top, the wood being laid moderately loose so as to admit of the fire passing through the whole, having openings at the sides for lighting, which should be charged with dry material, and a few openings at the top to ensure the necessary draught. When the fire is well going it is necessary to see that it does not break through, the holes at the top being closed, and when the whole is charred to the centre of the wood it will be necessary to put the fire out. Some experience is necessary to make charcoal, especially of small material.

TRANSPLANTING WELLINGTONIA GIGANTEA (F. E. D.).—There is some difficulty and danger of removing a tree of so large a size, but we should risk it, digging a trench at 3 feet from the stem, tying the branches up to keep them out of the way so as to facilitate operations, and all round down below the roots, and from this work under the roots towards the stem, and removing the loose soil with a fork, the tree may in all probability be moved with a good ball of earth, in which case there is then no danger; but if the soil be loose, most of it coming away from the roots, it would be well to fill-in the soil again and defer the removal until another year. We find the best time to move *Wellingtonias* is, in spring just when they are commencing growth, or early in autumn.

POSITION OF FURNACE (Munster).—The fire should be taken along the front and back of the house, and the furnace is preferably placed at one end so that the fire be taken across the end to the front, across at the other end to the back, along it to the end where the fire entered, where, of course, should be the chimney. It will not be practicable to heat by fires two houses from one furnace, unless you intend both compartments to be kept at a similar temperature. If you have two furnaces they may be in the centre so as to have both in one stokehole, taking the fires across the end along each side the division to the front of the houses.

DAISIES ON LAWN (Idem).—There is no better plan than to grub-up the Daisies with a knife, a boy removing a great many in a day. Lawn sand is highly spoken of, but we have no experience of it. Can any of our correspondents having given it a trial state what its effects are on Daisies and other lawn weeds?

GERANIUMS NOT FLOWERING (L. B., Bromley).—The glass not being clear is to some extent in fault, but the principal reason of your plants being flowerless is a deficiency of heat. To have Zonal Pelargoniums flowering freely in winter they require a temperature of 50° to 55°, and to have plenty of light.

MUSHROOM BED (A Lady).—Remove the hay as it is wet. The moisture at the surface, if entirely due to the heat arising from the bed, is a good sign, yet we do not like so much moisture given off as to render the covering wet. Have patience, and if the bed dries it is likely you may have plenty of Mushrooms.

FRENCH BEANS NOT GERMINATING (Idem).—Either the seed is bad or there is not sufficient warmth for its germination. The soil requires to be moist, but not wet until the plants appear. The temperature should range between 55° and 65° by artificial means, rising to 75° from sun heat. The seeds should be planted an inch deep.

PEACH WOOD NOT COLOURED (Idem).—The wood being firm and the buds plump there is nothing to fear, only do not allow the soil to become dry or the buds will probably fall. A much lessened supply of water is needed in the winter half of the year, yet the border should be watered so as to keep it thoroughly moist.

NAMES OF CHRYSANTHEMUMS (T. A. N.).—We do not usually name varieties of florists' flowers. No. 1 resembles Christine; 2, Maroon Model; 3, Golden Cedo Nulli.

STOCKS FOR FRUIT TREES (F. C.).—They are grown extensively by nurserymen in the neighbourhood of Woking.

ROSES (F. R. M. R., Kilkenny).—Your letter shall be answered next week.

ARUM DRACUNCULUS (G. W. O.).—This plant and *A. crinitum* are not generally included in select lists of border flowers, but are enumerated in regular lists of herbaceous plants. The plant first named is also known as *Dracunculus vulgaris*.

CELOGYNE (Subscriber).—The plants do not flower because the growths are not well matured. It appears you have flowered one plant freely. If the others have their pseudobulbs similarly ripened they will flower equally well whether the plants are grown in pots or on blocks of wood.

NAMES OF FRUITS (A Thankful Subscriber).—Burré Dial. (E. H. S.). Suffolk Thorn.

NAMES OF PLANTS (Fifteen-years Subscriber).—*Cypripedium insigne*; the yellow Orchid, *Dendrobium chrysanthum*.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

SHEEP FOR THE HOME FARM.

THERE can be no question that the stock of sheep to be kept upon the home farm is a matter requiring great and deliberate consideration, because the county and district must be considered. The climate of England, Wales, Scotland, and Ireland is so various that certain districts of each are found to favour the sheep generally reared in them. The soil and climate go a long way to define and establish different breeds of sheep as belonging to certain counties; hence the Sussex downs, the Hampshire downs, Leicesters, Lincolns, Cotswolds, horned Dorsets, and the little

horned Portland sheep, which resemble the mountain sheep so much prized by Welsh farmers. Then we have also the black-faced horned sheep of the mountains and the chevriots of the lowlands in Scotland. We have thought proper to name these as some of the sheep stock peculiar to certain districts, and likely to influence our choice in selecting sheep stock for the home farm, because we write for the benefit of farms situated in every district of the United Kingdom, which of course includes Ireland. The breed of sheep generally kept upon the rich soils in Ireland are for the most part white-faced, polled, and woolled, whilst those called Kerrys and Wicklows are of a similar type with the horned Welsh mountain sheep, although natives of the mountainous districts of Ireland.

We shall have to consider the requirements of the home farm as in some cases only requiring to keep enough sheep for killing to supply the mansion. In other cases we find a considerable extent both of arable land, park, and pastures upon which sheep must be kept or reared with the view of profit connected with the occupation, and from which the sheep, in considerable though in varying numbers, must be sold at the market price to the butchers; we therefore propose to divide our subject under two headings. First, sheep to be kept and fed for home consumption; and secondly, those to be fattened and sold for profit in the open market.

In the purchase of sheep for consumption we must necessarily take sheep of light weights, in order that small joints of mutton may be obtained which are so much required in the establishments of the wealthy; and it must be remembered that unless a breeding flock is kept the animals must be purchased, particularly as it is desirable to have sheep of two years old and upwards, so that meat of the highest quality and fullest flavour may be secured. This may be done upon a home farm where there is a sufficient extent of land, both arable and pasture, to keep a breeding flock, with the South downs only, as all the other breeds of sheep furnish heavy joints of meat at over two years of age, except the small mountain breeds, which we have before named; but it would not answer to keep breeding flocks of these kinds, unless in some special cases, where we find the home farm situated in some vales in the mountain districts, in which case the small mountain varieties of stock may be reared for fattening, but even then they must be brought into the vales and enclosed lands for twelve or fourteen weeks' good feeding in sheltered situations.

It is necessary to consider that our South downs or Sussex sheep when well fed will furnish capital mutton of moderate-sized joints, still they want the peculiar and venison-like flavour of the horned mountain breeds produced by feeding on the hills upon the heather, wild thyme, and grasses, the produce of the mountain sides.

Upon certain home farms we have for many years brought into the southern counties the black-faced horned sheep from the mountains of Perthshire, but upon their arrival upon the enclosed pastures and park lands they wander about and seem lost, and are with difficulty kept within the bounds assigned to the home farm. It is in such cases that wire fencing is entirely useless to keep mountain sheep within the required bounds, and it is just the same when they are put on to the arable land for a course of root-feeding, as the wattled hurdles are of but little use unless they are set up endways; nor is yarn netting of any service, for being horned sheep they get entangled in the nets and drag down the whole dividing fence of the folding upon root crops. The same argument applies to other mountain breeds, but not with so much force, because the other mountain breeds, and particularly the Portland sheep, are of a more docile temper, and instead of taking the Scotch sheep from Perthshire we are now taking the Portland sheep in preference for feeding upon the home farm. The same may be done with the small Welsh and Irish mountain sheep, because we find numerous home farms attached to the residences of gentlemen distributed over the whole United Kingdom.

We must now consider, whether we take the horned sheep of the mountains or the Sussex downs for fattening, the best mode to be observed in feeding and the mode of management as regards folding, &c., preparatory to being fed upon root crops, and also the time of year when the feeding should commence. In the case of mountain sheep they had best be taken and placed in the park pastures where the grass is highest in our estimation by its stimulating and nutritious qualities, which is about the month of August. There is then plenty of grass, or ought to be, for them to feed upon whilst roaming at large; and finding that they are in good pastures and subject to kind treatment by the shepherd or herdsman they soon become accustomed to the overlooker, who after about a month or so may venture to entice them into a small enclosure or paddock well fenced once a day and offer them food in the troughs, and then they will, if only for sake of curiosity, examine them. Attractive food should then be put in the troughs, than which there is nothing better than carrots in small quantities, the aroma from which is exceedingly grateful. In order that the carrots as soon as the sheep begin to eat them should not scour the animals at this early period, bean meal or barley meal or de-

corticated cotton cake in meal, about half a pound per sheep per day, should be used in conjunction with the roots, the carrots being cut into small pieces by passing twice through Gardener's turnip cutter, and the meal strewn over them will prove the best of all food, and will have the effect of improving the mutton by raising up a good proportion of lean meat as well as fat, for it must be recollected that the small-horned sheep are naturally deficient in flesh. After this mode of feeding in the paddock has been carried out for some little time the animals will become accustomed to be driven better, and will respond to the careful attention of the shepherd. When the pasture feeding is at an end they should be placed upon root-feeding by the shifting fold; but such is the habit of these sheep on their native hills that they seldom entirely forget to value their liberty, we therefore under ordinary circumstances prefer to paddock-feed them until fit to kill, or to keep them in a shifting fold in the field, and to give them rack food, the fold being bare where the root crop is stacked or pitted. There will be no enticing turnip greens outside the fold to induce them to break their bounds. When the animals are settled down into close fold feeding they should of course have the best of hay, which is composed of Dutch and suckling clover or of sweet-scented park hay. This is the only food they will require, besides the above named mixture of meal or cake with the roots, and whether carrots, Swedes, turnips, or mangold are used nothing should remain in the troughs until next day. We do not advise the feeding with linseed cake meal, as it appears to us to induce fatness without producing a due proportion of flesh, besides which we are inclined to the opinion that linseed cake will be more likely to destroy the flavour of the meat to a greater extent than other food, which was originally obtained by feeding upon the heather and herbs of the mountains. After the course of feeding we have recommended these sheep will be found when killed to give mutton of great excellence, of full flavour, and unless fattened beyond the usual period of fifteen or sixteen weeks they will not exceed in weight 14 or 15 lbs. per quarter. Before leaving this part of the subject we must refer to the forest breeds of sheep of the west of England, these being the Exmoor and Dartmoor small breed of small-horned white-faced sheep, located in the high lands of Cornwall and Devonshire, and when taken into feeding as before described they yield very good meat of extremely light weights, being when fat seldom over 12 lbs. per quarter. The method of feeding the south down and other breeds of sheep will be referred to in our next.

(To be continued.)

WORK ON THE HOME FARM.

Horse Labour will be rather severe for some time yet, for until the autumn ploughing is done so as to lay the land up high and dry for the winter no relaxation for the animals will be possible, except now and then a wet day, therefore the horses' keep must be liberal and nutritious. Animals for farm work ought to be powerful and capable of drawing from a ton to 24 cwt. each, also able to each of them turn a furrow in ploughing—that is to say, two horses to a double furrow plough, or one horse to draw a single furrow plough; and in ordinary soils such as sand, loam, gravel, and hazel loam or chalk, if the horses are upstanding, and not under 16½ or 17 hands in height, with weight and strength in proportion, and in particular if they are of the Clydesdale stamp and in good condition, they can do this work without being distressed by it if fairly used by the teamsmen. If soils are stronger than those named two horses to a furrow will sometimes be necessary, but then we prefer such work to be done by steam when it can be hired or is kept for use upon the farm. Many farmers will take exception to the point here put forward—that of each horse turning a furrow in ploughing, but objectors in such cases are often acting upon their prejudices or preconceived notions, or otherwise they have in use only small light and under-sized animals, and perhaps out of condition by not receiving rations of corn, fodder, and roots sufficient to keep them in working order, for it must be remembered when horses are full of flesh and condition their actual weight largely increases their power for work. Some chalk carting may now be done, as there are but few farms which do not require chalk or lime in some of the fields, even in those districts where chalk underlies the surface. It is often said on the light chalk hilly soils that it is only to plough a little deeper and to bring up chalk to mix with the surface soil; but this is a mistake, for that which is near the surface is not chalk but merely rubble, it having been robbed of its lime and the other constituents of chalk proper by the action of air and water and the roots of plants during a long series of years, and instead of acting as chalk is required to do, it simply makes these light soils more hollow and unproductive. It is, however, a matter worth consideration, instead of carting chalk when the land rests upon chalk subsoil, especially where the surface soil is heavy and sour, as to the propriety of sinking wells in the fields, as this work is often done by contract, and the chalk when procured by the well-digging process is all hand labour and done by contract at so much per acre, the men lifting the chalk from a considerable depth, and the greater the depth from which it is recovered the softer and better it is for manurial purposes. These wells after furnishing

the chalk required are partially filled and made secure by the tractor, so that in the future the horses can pass over them in security during tillage operations. There are other methods of obtaining chalk in certain districts which must be described on another occasion. The carting and storing of roots or filling-in the field must be continued if not already completed, for although the weather may continue wet it is better than frost for securing roots, the only drawback being the treading of horses and cutting the land into ruts by the cart wheels. The roots if put into store wet will gradually dry if the heap is covered with straw, but not with earth until they are found to be dried in the heaps. At every opportunity wheat sowing will still be continued, only the land at this time must not be ploughed beforehand, but ploughed and sown every day, for when fit to plough the land is fit to receive the seed, especially after turnips fed off by sheep. There is, however, at present prices not much inducement to sow more wheat than can be sown at the usual time, especially upon good barley soils. It would be much better to sow barley in the spring, not only after turnips fed off, but after mangolds pulled, and if the land is clean it should be ploughed in proper-sized ridges according to soil, and remain until the spring, when the first and best season may be obtained, and be likely to produce the best malting barley.

Hand Labour will still be employed in hedging, ditching, banking, wood cutting in the copses, cutting and making the water carriers for irrigating the meadows, also trenching in the meadows and park pastures particularly flat-lying ground, otherwise rushes will make their appearance and injure the quality of the grass and hay, for wherever the rushes and aquatic grasses are found the best and sweetest herbage dies out. Men and women also may now be employed in the meadows and park pastures, taking up docks, brambles, and other wood plants which have arisen from seed or otherwise, the best implement for this work being a small pickaxe with one sharp end $1\frac{1}{2}$ inch wide, the other end pointed. This is called locally when in use a tomahawk, and is extremely useful for weeding at all seasons. The ant hills in the park pastures should be cut down with a sharp spade, and spread and chopped so as to take the frost and kill the ants, and where there are many to dig out and spread the chain harrow may be employed with advantage when the weather is dry enough. In some light sandy or gravelly soils heather and gorse plants will sometimes be found; these also must be lifted and carried away, this being the time of year when they may be rooted out easily, the ground being soft, and some of these may be pulled by hand and a stout harvest glove whilst the plants are young. The yard man must now give attention to the breeding sows and young pigs; this is also the time to put up some pigs to fatten for home use, both for pork and bacon. The best breed of pigs we shall describe before long.

THE POULTRY CLUB'S RULES FOR SHOWS.

We published in our issue of October 10th some rules issued by the Poultry Club for obligatory insertion in the schedules of all shows held under its patronage. They have the merit of brevity and conciseness, and we think that the Club has done wisely to publish them in this form; at the same time we hope that the larger and more general code of rules for the good management of shows before published has not been entirely rescinded, but will, as promised, be speedily incorporated in the rules of the Club, for their object is excellent, and, to judge from a bundle of schedules now before us, their influence has been considerable. We will briefly comment upon these six rules in order.

"1, Any exhibitor who has been disqualified by the Committee of the Poultry Club for fraudulent practices is ineligible to compete at this show." At first sight this looks somewhat over-stringent, but when we analyse the other rules of the Club we find that this disqualification is no arbitrary proceeding. When the judge of a show held under Poultry Club rules has disqualified a pen the matter will be laid before the Committee of the Club. Of course it is not their province to revise the decision of the judge, which is final in the particular case, but there may be extenuating or almost absolving circumstances—*e.g.*, the exhibitor may be a person unacquainted with the secrets of poultrymen, and may have lately bought the bird or birds from some too-talented vendor. If in such a case the exhibitor is willing and desirous to trace the guilt home to the guilty party it is obvious that no blame beyond that of carelessness can attach to him, and the Committee of the Club would prevent any further consequence following the disqualification. Or again, an exhibitor may employ a poultryman who is solely responsible for the fraud. Of course care must be taken that dishonest fanciers do not screen themselves behind their servants; but we think it but fair that in such a case, should it be clearly proved that the blame attaches entirely to the servant, the master should have one warning, and, should he continue to employ the man, then be considered responsible for any of his tricks.

"2, No person is allowed to exhibit borrowed birds." This is a very plain rule, and we hope pains will be taken to carry it out. Borrowing of birds for show is for many reasons a most objectionable practice, and one which we believe has often been resorted to

by really honest exhibitors simply because it has not been clearly forbidden. Point cups have encouraged it much. We have a lively recollection of having once competed for a point cup and lost it by one point, simply from an exhibitor having won first prize in several classes with birds well known to be borrowed.

"3, Exhibitors and their servants will not be allowed to pen or unpen their birds." This rule we desire to see fairly and firmly carried out. It is not that we distrust the large body of exhibitors, or would willingly debar them from the satisfaction of seeing their birds safely into their pens, but experience has shown us that many who cannot be trusted often get beforehand into exhibition rooms and have often done much harm. It is fairer, too, for all that no one should have the opportunity of giving a last smoothing touch to birds ruffled in their baskets, as all cannot possibly give it. Some distinction may plausibly be drawn between the cases of penning and unpenning. Committees are glad to get a lot of pens belonging to one exhibitor quickly taken off together, and so generally encourage this personal removal; but it is very easy for exhibitors to hand-in a list of their numbers and for a committeeman to collect them and hand them over to their owner. The rule used to be well and successfully carried out at the later Bristol shows. The reason of this we happen to know. We were present at the close of one of the shows some seven or eight years ago. A lot of people came in to take away their exhibits late at night. Suddenly there was a scuffle after a Spanish hen which had escaped. She was caught and the supposed owner promptly carried her off. It was soon, however, discovered that the whole affair was a trick, and that one of the first-prize hens, considered worth £20, had been stolen by some unknown individual who had entered a worthless pair simply to gain the *entrée* to the building. As far as we can recollect the police were never able fully to track out the offender.

"4, No bird may be removed from the show before the close of the same, save on account of illness and with the Secretary's consent." This might be thought quite a superfluous rule, but it is by no means so. It is not an uncommon thing, of course with the connivance of the authorities, for a bird to be taken out of its pen after the first day of a show, or even soon after the judge has been round, and sent to win at another show, an inferior specimen being substituted for it. The public are hereby taken in, having paid to see the prize birds and being shown others in their stead. We were astonished one year at Birmingham (of all places!) to discover that something of the kind had been done. We wished on the last day of the show to examine some famed Dark Brahma pullets which had won. On looking them over we observed, "after all one is not so extraordinarily good." "Oh!" replied a person in the secret, "the real one is winning to-day at—Show; she was taken out last night, and this one sent in her place." On the other hand we remember one year at Oxford a Dorking champion really looked mopy, but not seriously so, yet the Committee steadfastly refused to let him go home, for the good reason that they must not break faith with the public.

"5, It will be open to anyone to lodge a protest for fraudulent practices against an exhibitor on paying £1 deposit, and such further sum as shall be necessary to defray the expenses, the deposit to be forfeited should the protest be considered frivolous by the Committee. Should the protest be sustained the deposit will be returned and the expenses paid by the Poultry Club." This seems a good and carefully drawn rule. It is often expensive to bring a judge back to a show which he has left; this difficulty is obviated by the provision concerning expenses. There is also some temptation for a judge to declare a protest frivolous, the decision on the point is therefore left with the Committee. While the deposit should be enough to deter all foolish protests, the liberal offer of the Club to pay all expenses in the case of those sustained should be encouragement to exhibitors not to shrink from their duty to point out malpractices where they are evident.

"6, An exhibitor who shall be disqualified for fraudulent practices shall forfeit all or any prizes or cups that may have been awarded to him or her at this show in addition to entry fees." We have often contended for the adoption of this rule, and so need say little more about it. It was disgraceful that, as heretofore, at the greatest shows a person might carry off a ten-guinea cup in one class, and in another be disqualified for pulling out hock feathers or carving a comb. It is a further question whether some provision could not be made for the payment of prizes to an exhibitor who has one pen disqualified owing solely to the fault of another person. Such cases, however, are rare, and we incline to think that he should pay the penalty of carelessness.—C.

LANGSHANS.

THOUGH not an exhibitor at shows I have been an observer and a breeder of poultry for many years, and without hesitation I say that the Langshan is the most meritorious breed that has ever been introduced into this country. At first sight, when the chickens leave the nest they are exceedingly like Cochins China chickens, destined to be black and white, but all so exactly like each other as to show at once that they are in all probability a

distinct breed. One can scarcely imagine that such chickens can ever become black; yet as the feathers appear, except in the wings, the first feathers (in which are mostly white—the white down) disappear, and there can be no doubt any longer as to what the colour will be, for black takes the place of white. As the chick grows its bony frame is observed to be much lighter in build, like a thorough-bred horse in comparison with a cart horse. The bird is more active and able to make more use of its wings than a Cochins or Brahma; its breastbone is much longer, the thigh much smaller in proportion to the breast, the legs less feathered and without a trace of yellow, being black, pink, and white, with the nails on the black claws pearly white. The skin is delicately white, and the flesh upon the breast abundant in comparison with either the Cochins or the Brahma. Of two chickens hatched in the same nest and reared together, the one a fine Dark Brahma cockerel, the other a Langshan, at a little more than three months old as nearly as possible of the same size in appearance, I carefully measured the length of the breastbones. The Brahmas measured $3\frac{1}{2}$ inches, the Langshan's $4\frac{1}{2}$ inches. My Langshans are pure-bred birds, obtained from Mr. Crood of the Manor House, Durrington, near Worthing. Their purity of breed I have ascertained to my own satisfaction thus: I obtained some very pure Duckwing Game birds, and have bred a cross between these two pure breeds; now the cross-bred birds are all so exactly like each other as to exclude the most remote probability of any taint of blood in the parentage on either side. I have done more: I have proved that a Light Brahma hen, supposed to have been a pure-bred fowl, is nothing of the kind, her chickens being of all colours when crossed with the pure Langshan; a White Dorking hen also, which I knew was not quite true bred, throwing chickens of all colours in the same way. I think the above facts satisfactorily prove that my Langshans and Game birds are pure breeds, and that the slightest cross in either parent will be unmistakably shown by varieties in colour, &c., in the produce of such birds, every breed as it were peeping out here and there. I have no doubt that several of the birds exhibited last year at Birmingham as Langshans had a considerable amount of Black Cochins blood in them; but in time this mixture will be recognised and all contamination will be got rid of.

I have a rose-combed variety of Langshan, and I understand in the pure bred tufted birds appear occasionally. I do not think the best Langshans have yet been brought from their native country. Everybody knows how perseveringly the Cochins and the Brahma will sit, and how frequently they want to sit. The Langshan is very easily prevented, and if allowed to sit is very apt to desert her nest before the time of hatching has arrived. Langshans are extraordinary layers, their eggs being not large for the size of the bird but very rich. The colour of the shell varies from a dark brown to almost white, and is sometimes spotted like a Turkey's egg. It is a richer and better egg than the Cochins' or the Dark Brahma's, the Light Brahma's egg coming nearest to it in quality.—JOHN GABB, *Surgeon, Bewdley.*

ROOT SHOWS.

THE first condition for securing good crops is to obtain good seed—pure stocks of approved varieties. Without this, cultivation fails in the object desired; with it success, so far as the elements permit, is certain. Where good seed and good culture are combined remarkable results are achieved, of which a trio of root shows recently held afforded sufficient evidence. Alike on account of the magnitude of the exhibitions, the excellence of the produce, and the enterprise of the promoters of these great agricultural gatherings, the shows in question merit notice. First in order of date was the exhibition of

MESSRS. WEBB & SONS.

During previous years great displays of roots which have been grown from seed supplied by Messrs. Webb & Sons have been arranged in their capacious warehouses at Wordsley near Stourbridge. This year the Show was held in Curzon Hall, Birmingham, where it opened on the 20th inst., and was the most extensive of its kind that has ever been seen in the midland counties. The value of the prizes offered was £300, making a total of £500 offered by Messrs. Webb during the year for superior cultivation. The number of entries for the Show was 1612 (comprising 25,000 roots) against 1308 in 1877. Amongst the exhibitors were Her Majesty the Queen, His Royal Highness the Prince of Wales, the Duke of Portland, the Duke of Sutherland, Earl Beauchamp, the Earl of Dartmouth, the Earl of Northbrook, the Earl of Powis, Earl Redesdale, the Earl of Stamford, the Earl of Warwick, the Earl of Wemyss, Lord Bateman, Lord Hampton, Lord Moreton, Lord Northwick, Lord Willoughby de Broke, and many other large landed proprietors.

Webbs' Imperial Swede, of which there were 511 entries, formed a prominent feature of the Exhibition. Mr. Joseph Beach won the cup with produce of remarkable quality. The first prize for weight of roots was taken by Mr. R. Lloyd, Kidderminster. The twelve heaviest Swedes in the hall weighed 268 lbs. Of Webbs' Improved Colonel North Mangold there were 214 entries. The

first prize for the "best" was won by Mr. T. H. Farrer. The heaviest single Mangold of this variety in the hall weighed 39 lbs. Webbs' Mammoth Long Red Mangolds were extremely fine. Mr. F. Lythall was awarded the first prize for the best roots. The prize for the heaviest was won by Mr. T. Moxon, Easenhall, with a collection of twelve, weighing 479 lbs. A single root of this variety, shown by itself, weighed 62½ lbs. Sir R. F. Sutton won the chief prize for Webbs' New Kinver Yellow Globe Mangold. The heaviest collection of Globe Mangolds weighed 363½ lbs., and the heaviest single specimen 39 lbs. Webbs' Yellow-fleshed Tankard Mangold was well represented; Mrs. Cubberley, Alcester, securing the first prize. For Webbs' Intermediate Mangolds there were forty-nine competitors. Turnips, Kohl Rabi, and Cabbages were all excellent.

Superior vegetables were exhibited, and five hundred varieties of Potatoes grown by the firm on their trial grounds at Kinver attracted much attention.

The cereal classes contained excellent samples of Webbs' Challenge White Wheat, Kinver Chevalier Barley, Black Tartarian Oat, and Challenge White Oat. 4600 visitors attended the Show on the first day, and 7321 on the second.

The Exhibition on the whole was an excellent one, and highly creditable to Messrs. Webb and their numerous customers.

MESSRS. SUTTONS & SONS.

Only those who have visited the Royal Berkshire Root Show can form any just conception of its magnitude and of the vast concourse of visitors which crowd around the collections. The prizes offered by the firm during the year amount to £500, and are competed for by cultivators in almost every county in the kingdom. Amongst the exhibitors at the Show in question were Her Majesty the Queen, H.R.H. the Prince of Wales, the Duke of Northumberland, the Duke of Portland, the Marquis of Ailesbury, the Marquis of Donegal, the Earl of Craven, the Earl of Northbrook, Earl Bathurst, the Earl of Redesdale, the Earl of Warwick, Lord Calthorpe, Lord Camoys, Lord Chesham, Lord Eversley, Lord F. Kerr, Lord Moreton, Mr. W. H. Smith, M.P. (First Lord of the Admiralty), the Countess of Yarborough, and many other principal landowners and tenant farmers.

The number of entries was 1574. Tons upon tons of the most splendid roots of Mangold Wurtzels, Swede Turnips, Parsnips, and Carrots, &c., were gathered together in the magnificent premises of Messrs. Sutton in a room 180 feet long by 60 wide, and in four other rooms adjoining, probably the largest in the world used for such purposes. "My farming," observed a visitor speaking of the Show, "is of a limited character, but I have some idea that a produce of 110 tons an acre is a pretty considerable amount for even Mammoth Mangolds; that for six Long Red roots to weigh 233 lbs. is no little matter, and that it cannot be a baby root that is 3 feet 3 inches long, 3 feet in girth, and weighing 47 lbs." Yet such were a few of the recorded weights, and even large farmers were astonished at the excellence of the display.

In Class 1, for the "grand prize," a gold cup value £20, for thirty-six roots of Mangold Wurtzels in three of Messrs. Suttons' varieties, there were twenty entries. The Judges, after long and close examination, awarded the prize to Sir Paul Hunter, Bart., Mortimer Hill. The twelve roots of Suttons' Mammoth Long Red weighed 406 lbs., a similar number of Golden Tankard weighing 315 lbs., of Sutton's Berkshire Prize 377 lbs.—total, 1098. This was a splendid collection, many of the roots being handsome as well as large, but others were undoubtedly somewhat coarse. Much more attractive in appearance were the roots exhibited by R. Burn Blyth, Esq., Woolhampton, who was awarded the second prize of £10. The aggregate weight of the thirty-six roots was 770 lbs., but for smoothness and shape they were far in advance of all others, every root being a model of good culture. In this fine class size triumphed over quality, but in the next class for six Suttons' Mammoth Long Red Mangolds—a remarkable class of nearly a thousand roots—quality was worthily recognised in the first-prize collection of Sir F. Smith, Bart., Acton Burnell, which weighed 205 lbs., against the second-prize six of Sir Paul Hunter, weighing 233 lbs. The class for six roots of Suttons' Berkshire Prize Yellow Globe Mangold was a very imposing one, the roots combining size with quality in a remarkable manner. The first-prize collection of Mr. Richard Webb, Beenham, weighed 181 lbs. Similarly fine was the class of six Suttons' Yellow Intermediate Mangold, where Sir Paul Hunter was again in the first position with roots weighing 161 lbs. The same successful exhibitor was first in the class for six roots of Suttons' Golden Tankard Mangold with a collection weighing 181 lbs.; some of the roots were a foot out of the ground, and of the true tankard shape. A fine class.

Swedes were remarkable for their numbers and general high quality. For twelve roots of the famed Suttons' Champion, J. F. Burrell, Esq., Frimley, won the first position with short-necked smooth handsome roots of great solidity. Many other collections were nearly equally good, no less than thirteen exhibitors receiving honours in this class. The same number of competitors was honoured in the class for twelve roots of Suttons' Imperial Green Globe Turnips, J. S. Calvert, Esq., Witney, heading the list. The class was an excellent one throughout, the majority of the roots

being models of their kind. Similar remarks apply to the White Globe Turnips, in which class Mr. Wills, Lambourne, secured the chief prize. Other varieties of Turnips were very fine, notably Suttons' Green-top Yellow Hybrid, in which class Sir Curtis Lampson, Bart., Rowfant, was awarded the first prize. Kohl Rabi was excellently represented, and Drumhead Cabbages attracted much attention. The three heaviest weighed 161 lbs., the heaviest single specimen weighing 56 lbs. Mr. S. Robinson, Melbourne, was the premier exhibitor. White Carrots were much better than the Reds, and Parsnips were numerous and superior. Classes for roots grown with sewage were well filled, the Reading Sanitary Authority being the most successful exhibitor with produce of very high quality. The Show throughout was a splendid one, and the arrangements were complete in every detail.

MESSRS. CARTER & CO.

This annual Show of roots which have grown from seed supplied by Messrs. Carter & Co. was held in the Agricultural Hall, London, on November 23rd. The prizes offered were of similar value to those provided by the firms above noticed. The Show was undoubtedly one of the best ever held by the firm, not only on account of the immense number of roots exhibited, but also in consequence of the very superior quality of some and the general excellence noticeable throughout the many well-filled classes of the Show. The root crops are a very important element in the food production of this country, and much credit is due to the great seed firms for the encouragement given to the production of superior and heavy crops.

This year Messrs. Carter exhibited a large consignment of extraordinary roots grown from their seed in Canada. This transatlantic produce attracted much attention. The roots consisted of the following varieties—Carter's Mammoth Long Red Mangold, the heaviest weighing 63 lbs., and eight roots 480 lbs.; Carter's Warden Yellow Globe Mangold, the heaviest 60 lbs.; and Carter's new Yellow-fleshed Tankard Mangold, the heaviest weighing 32½ lbs. From the Royal farms of Her Majesty the Queen and H.R.H. the Prince of Wales came a group of the different varieties of Carter's Mangold. These were not entered for competition, but were of excellent quality, not particularly large, but very clean and shapable. The following noblemen interested in agriculture were represented in several of the classes—the Duke of Northumberland, Earl of Harrington, Lord Redesdale, Lord Clinton, Earl of Warwick, Lord Sondes, Sir Wm. Farquhar, Sir Curtis Lampson, Sir Charles Russell, Admiral Sir G. N. B. Myddleton, Sir Richard F. Sutton, Major Allfrey, &c., and there were contributions also from large farmers, schools, asylums, and sewage works.

In the class for twelve roots of Carter's Imperial Hardy Prize-winner Swede there were seventy-three entries. E. Pilcher, Esq., was first, Messrs. T. C. and A. H. Borthwick second, and W. Beckett, Esq., third. This class was remarkable for the evenness of the roots, hardy appearance, and truthfulness to name. For the heaviest root of this variety T. Moxon, Esq., was first, and for the handsomest the Middlesex County Asylum (Mr. F. Alderton, steward) gained a similar award. For eight roots of Carter's Warden Yellow Globe Mangold there were sixty-seven entries. T. Southern, Esq., was in the first position. This was another grand class, the variety a very handsome one. For the heaviest root J. Clarke, Esq., was first; and for the handsomest, T. H. Farrer, Esq. For eight roots of Carter's Mammoth Long Red Mangold there were forty-seven entries, J. Clarke, Esq., winning the first prize. The specimens generally were not only large but of excellent shape. For eight roots of Carter's Intermediate Mangold there were thirty-nine entries. Mrs. Morten (Mr. J. Cave, steward) was placed first. A really fine class. For eight roots of Carter's Yellow Tankard-shaped Mangold there were thirty entries. J. Clarke, Esq., was first. A clean good class of an increasingly popular variety.

For twelve roots of White Globe Turnips there were eleven entries. Mrs. Morton was first with superior produce. The competition in the Turnip classes was weaker than usual, the season having proved unfavourable to their growth. The prizewinning roots in all the classes were remarkably handsome, notably in that for twelve roots of Red Lincoln or Paragon, and for twelve roots of Carter's Imperial Green Globe. For eight roots of Carter's Imperial Green Kohl Rabi there were twenty-three entries, the Birmingham Corporation Sewage Farms (Mr. J. Anscombe, steward) securing the first prize. This was by far the best lot of Kohl Rabi ever seen at Messrs. Carter's Show.

Silver cups were gained by Lord Warwick for six roots of Carter's Warden Prize Mangold, and the Eton Local Board (Mr. C. Tough, steward) for six roots of Carter's Imperial Mammoth Mangold. A silver cup offered by Messrs. J. Gibbs & Co. for the best collection of roots grown with their manures was taken by the South Metropolitan District Schools. Another cup offered by Messrs. Ohlendorff & Co. for the best twelve roots of two varieties of Mangold grown with their guano or phosphatic manures was awarded to Messrs. E. & R. Emery. Some idea of the extent of the Show can be formed when it is stated that the whole of the gallery surrounding the hall was occupied by the various ex-

hibits. Messrs. Carter are to be congratulated upon the extent and quality of the produce, and also upon the able manner in which the Show was managed.

VARIETIES.

We were glad at the late Crystal Palace Poultry Show to see traces of benefit from the International Exhibition in Paris. In the Any other colour Polish classes Mr. Beldon's magnificent Buff hen which took second prize, and Mr. Reville's pure White cock and hen which took third prizes were, we feel certain, birds which won at the Paris Show. These two breeds were almost or quite extinct in this country, and we are very glad to see some chance of their being resuscitated through these new importations.

— THE Lancaster Poultry Show which was to have taken place last week, was indefinitely postponed in consequence of the very small number of entries. The course taken by the Committee—viz., that of returning all entry fees, was a straightforward one, and far preferable to the too common practice of touting for late entries. The cause of this failure of entries was doubtless due to the earlier date chosen this year for the Show. The prize list was liberal, and eminent Judges were secured, so we can see no other reason for the failure of what has hitherto been a large and successful meeting. We do not believe that any show on a large scale, save so old-established a one as Oakham, will prosper between the Crystal Palace and Birmingham.

— THE Bexley Heath Show is among the number of those for which application has been made for late entries in special classes. We should like to see this practice stopped, especially as it appears from the discussion of the subject at the late meeting of the Poultry Club, and in the columns of a contemporary, "that the admission of entries after the day on which they are stated to close is positively illegal." There seems little doubt that an unsuccessful exhibitor would have a good case against a committee who had accepted post entries.

— We hear that the Committee of the Poultry Club has been invited to consider the question of railways, who declare that they will not be "common carriers of poultry," and who require consigners of poultry to sign a paper to the effect that they consign them at their own risk. Strong evidence is forthcoming that the Companies break the law by this requisition, and are very well aware of the fact, but continue to rely on public ignorance. We hope that the Club, if after due notice these Companies do not abandon such regulations, will try a test case and publish the result to all the poultry-fancying public.

— We have a large batch of schedules of forthcoming shows before us. First in magnitude and importance is that of Shrewsbury, fixed for January 2nd and 3rd. There are forty-four classes for live poultry, which, save in the case of Game, are shown in pairs of cock and hen. The prize list is very liberal, there being three prizes in each class, the first of £3 for the more popular varieties, and £2 for the rest, and this with an entry fee of only 5s. There are three classes for Dorkings, four for Cochins, seven for Game, five for Hamburgs; Malays, Leghorns, Andalusions, Sultans, Langshans, and Silkies all have classes. There are also four local classes for dead poultry. Pigeons have twenty-five classes, with the unusually low entrance fee of 3s. The subdivision of varieties is good, and we are specially glad to see a class for "Short-billed Frilled varieties," which will doubtless be a well-filled and very attractive one. The Judges are for poultry Messrs. Hewitt and Teebay, and for Pigeons Mr. Esquilant. The Show adopts the Poultry Club rules, which are printed in the schedule. The Swindon Show will be held on December 31st and January 1st. There are twenty-eight open classes for poultry shown in pairs, and eighteen for Pigeons partly shown singly and partly in pairs. There are also many local classes. The programme includes an exhibition of Cage birds, Rabbits, and Cats. The Judges are to be Mr. John Martin, Mr. P. H. Jones, and Mr. H. E. Gilbert. The Poole Show is fixed for January 1st and 2nd. There are twenty-five classes for poultry, twenty-one for Pigeons, and eight for Cage birds. It will be held under the rules of the Poultry Club. The Judges are Rev. Grenville Hodson, Mr. W. B. Tegetmeier, and Mr. Billett. A Show will be held at Jersey on January 8th and 9th. The classification is good, and birds are shown singly. There are forty-four classes for poultry, nine for Pigeons, and ten for Cage birds. Many cups and special prizes are offered. The Judge is Mr. O. E. Cresswell. In addition of these poultry-show schedules we have those of the Oxford and Surrey Columbarian Societies. The former will hold its Show at Oxford on December 11th, and the latter at Guildford on December 10th and 11th.

— THE *Prairie Farmer* alludes as follows to American exports, which now exert such a great influence on the food supply of this country. In 1858 the population of Great Britain, exclusive of the army, navy, and seamen abroad, was 28,389,770. In 1877 it was 33,444,419. In 1858 the total value of imports of live cattle, sheep, and swine was £1,390,068; of dead meats and provisions, £4,343,592. In 1877 it rose to £6,012,564 for live stock,

and £30,144,013 for dead meats and provisions. Thus the imports of Great Britain of animals alive and dead has increased from a total of £5,733,660 per year to £36,156,577 per year. The import of wheat, other grain and flour, has steadily increased from £20,164,811 in 1858 to £63,536,322 in 1877, making a total import for 1877 of live and dead animals, and animal products, grain and flour, of £99,692,899. Last year we had over a hundred million bushels of exportable grain. It is estimated that this season we shall have 180 million bushels for export.

WINTERING BEES ECONOMICALLY.

THERE is no greater blunder in practical bee-keeping than the retention at the end of the season of an array of weak and sparsely peopled hives, which, like Pharaoh's lean kine, eat up the fat, and very probably in the long run giving way after consuming a considerable amount of both food and trouble, which is altogether wasted and as bad as thrown away; whereas, by uniting two or three such hives together, say one on either side, to a central, a first-rate dependable stock is established for the succeeding season, and in that excellent translation by the late Miss Graham of Duntrune of Jonas De Gelieu's interesting work "The Bee Preserver" we find that author takes credit for the discovery of the fact that such conjoined stocks can be wintered as economically as any one single kept separate. The soundness of this position he incontestably proves by lists of experiments repeated over and over again, and yet confesses his inability to account for, to him, the surprising and unexpected result. His talented translator gives copious proofs in the appendix of her experience with her own and her gardener's hives, and the diminished weights from September to March of the years 1828 and 1829 confirmatory of the hypothesis, only one of which I will adduce. She says, page 133, "The gardener's hive No. 2 received two swarms in addition to its own, and this allied army took possession just as peaceably as the others, and actually consumed less honey during the winter than No. 1, which was only doubled."

Every tyro of our day has verified this discovery for himself, and ought to be able to satisfactorily account for it. The natural heat emanating from the combined body keeps up the temperature of the hive to the required point, and the inmates are thus enabled to enjoy their comparatively undisturbed dormancy with the minimum of exertion and consequent consumption of store; whereas in the sparsely peopled hive the quickened respiratory action and increased muscular exertion to raise the temperature demands food to supply the waste of the system, clearly resulting in the fewer months of the separate and more active consuming as much food as the conjoined.

Your correspondent Mr. Pettigrew having previously challenged the accuracy of the observations of the illustrious Huber, which notwithstanding will continue to elicit the admiration of the apiarians of all time, is it to be wondered at if the discovery of the gentle Swiss pastor should be scoffed at, and the credulity of the advanced bee-keepers be denounced from "the paddle box" as follows, page 269?—"What a mistake the Swiss clergyman made in asserting that a large swarm of bees does not eat more food in winter than a small one! and what a strange thing that so many advanced English bee-keepers believed his statements!"

It may prove interesting here to note that the above highly accomplished lady, who moved in the best Edinburgh society of half a century ago, and whose ready wit drew forth the encomiums of such celebrities as Scott and Jeffrey, died towards the end of last year, having attained the great age of over ninety-five years. She was the last representative of the old family of Graham of Claverhouse, one of her ancestors being Viscount Dundee, better known in Scottish history as "The Bloody Claverhouse." She retained all her faculties to the last, and with them the warmest interest in her old favourites. A letter she addressed a few months before her death to the present writer on our common hobby was alike remarkable for the chasteness of its style as well as the beauty of its calligraphy.—A RENFREWSHIRE BEE-KEEPER.

BEES' UNPRODUCTIVE EGGS.

A RECENT correspondent of this Journal, in his observations on the subject of unproductive eggs in a particular hive to which I drew attention some weeks ago, has missed the singularity of the particular circumstances as detailed by me. Everybody knows that bees not only remove eggs when they do not want them but even devour them freely, as for instance in the case of a sudden glut of honey coming on as well as in the cases described by him. What I remarked upon as singular was that the bees in this case, at the very time they were being liberally and continuously fed for the express purpose of encouraging an increase of population, yet not so bountifully as to amount to a glut of food supplied, allowed the queen to lay again and again a quantity of eggs which the bees did not suffer to reach maturity, but appear to have devoured for some inscrutable reason, and quite out of their usual custom when being so fed. If they did devour or remove them, which is your respected correspondent's only solution of the

matter, I think it a very curious circumstance. I ventured upon suggesting two other causes as possible; namely, either a temporary weakness—call it impotence or barrenness on the part of the queen or a weariness on the part of the whole hive—at the usual rest period of the year, after the labours of an exhausting summer. It does not seem to me as if either of these suggestions is absurd or beyond the reach of probability as an explanation.—B. & W.

THE NATURAL AND THE ARTIFICIAL.

ABOUT five months ago some notes from my pen appeared in the columns of the Journal under the above heading. The price of artificial comb foundations was referred to, and this question was asked, Are they worth their price? Mr. Arthur Todd answered this question from the distant land of Algeria. I was pleased with the tone and earnestness of Mr. Todd's letter. He energetically endeavoured to prove that they are well worth their price and most useful to bee-keepers. His figures I could not understand, and certainly they did not touch the comparisons of my letter between the cost of artificial foundations and perfect combs made by bees from sugar syrup. I may here say that I never disapproved of the use of artificial comb foundations. From the first notice of them I have been of opinion that they would be of great service in apiculture if bees readily adopted them. In the first number of the Journal for 1873 my letter on "Bee-keeping, Past, Present, and Future" appeared; and in that letter I predicted that with artificial comb foundations in use supering in the future would assume new proportions and eclipse supering in the past. I am of the same opinion still. The instrument that makes the foundations and the foundations made by the instrument are wonderfully perfect. Mr. Todd says, "I quite agree with the best American authorities in that for the brood chamber the artificial foundation is a magnificent success; but that for supers, unless an excessively thin foundation be used, it is best not to tack on the word artificial to super honey, and so leave it open to the charge of being adulterated." I am disappointed to learn that Mr. Todd does not approve of the foundations being used in supering or for super honey, for, as I have already said, I have been in great hopes that the foundations would be most useful in supering. Notwithstanding what he says in disapproval of their use I still cherish the idea that they will be very serviceable and extensively used in supering. On writing on this subject before I stated that wax as well as flax could be bleached, and that the foundations for supering should be made for white or bleached wax. Some of the foundations that come down from London at present are of a golden colour and will not do for supering. It is to be hoped that attention will be given to the manufacture of foundations white enough and thin enough for honeycomb. As far as Mr. Todd's experience goes the foundations answer well for hives and broodcombs, and that bees take to them readily, and this certainly is no small gain and advantage in bee-keeping.

As to price, it appears to me that while wax sells at 2s. per lb. the foundations must cost considerably more if made in England. In America both honey and wax are cheaper, and foundations may be sold at a lower price there than they can be in England.

In comparing the cost of artificial foundations with that of natural combs made from artificial feeding, in my first letter I found a margin of gain on the side of the natural. From 20 lbs. of sugar we obtain 40 lbs. of syrup, and from this a swarm of bees in September or October can fill a bar frame or straw hive full of beautiful white combs and store up about 20 lbs. of syrup honey; all this for 5s. If the bees be removed there remains a hive full of pure white virgin combs half filled with syrup. Of course the syrup should be removed from the combs before they are used for supering, and the only way of getting it out is to let the bees of other hives or another swarm take it. Thus perfect and beautiful natural combs may be had for supering, incomparably better and probably cheaper than artificial foundations. The trouble of filling supers thus in autumn with perfect combs would be great, and therefore the artificial foundations are welcomed amongst us; and I earnestly hope that all that has been said in their favour may be fully realised in the future experience of British bee-keepers.—A. PETTIGREW.

MELTING COMBS DOWN INTO WAX.

THE first time I tried the boiling plan I found it so much trouble and took so much time that I made up my mind if I could not find a better plan I should melt no more except a little for my own use. I now take a large dish of any kind that will stand the heat of an oven, such as a common pie dish, or a roasting tin will do—anything that will hold water; then put another smaller dish inside that for the wax to melt into; then fill the bottom dish with water, and cover the inside dish with a piece of fine copper gauze turned up a little all round to prevent the combs from falling off. On this gauze put the combs, squeezing them together so that it will hold more; the wax will melt through and leave the refuse on the top. Turn it over a little now and then, so that the wax may find its way through the refuse, and press it gently but not too much, else the dirt will go through as well as the wax.

When there is a refuse on the top take it off, throw it away, and replenish again until all is done.

There is not much wax wasted by this method. The water in the bottom dish is to keep the wax from burning in the inside one. The mistress of the house can do it while she is attending to her ordinary house work, for all that is needed is to keep plenty of combs on the gauze and turn it over now and then. It is also much safer than boiling, for there is no fear of its getting on fire. It is also more expeditious, at least for anyone who has not special advantages. With large dishes and a good hot oven many combs may soon be melted. Cleaning the utensils used for boiling is tedious, but by this method only one dish needs to be touched with wax. When the dish is full of wax empty it into small moulds to suit the requirements of the owner.—P. RAINFORD.

THE STEWARTON HIVE AND OTHER MATTERS.

I AM described on page 359 as "a fault-finder with almost everybody and everything." Would your correspondent Mr. Pettigrew be pleased to point out where I have used personal allusions of a character not suitable for the intelligence of the present day, or employed the slightest discourteous expression towards Mr. George Fox or any contributor to the *Journal of Horticulture*? Where did I say the bar-frame hive was wrong? Who ever dreamed but himself that two 6-inch boxes formed a Stewarton set? I never used, much less had been successful in filling supers on any such. These are all inaccurate assertions.

I am also accused of finding fault with Mr. Pettigrew's last year's article on the Stewarton hive, wherein he quotes from Mr. Hunter's book. So far from this being the case I am innocent of writing a line in this periodical for six months after that article appeared, and was forced to break that silence on finding our captain so far out of his reckoning as to introduce comb foundation as a novelty of American invention in a journal which had recorded its German discovery fifteen years before! and so clearly defined its advantages that its fabrication became an indispensable in every advanced Scottish apiary since.

Your correspondent has asked me to demonstrate how "the deeper mysteries of apian science are to the skepist a sealed book, while to the bar-framer they are laid naked and bare for inspection." The paragraph is from a communication of "A LANARKSHIRE BEE-KEEPER" on "Fertile Workers" page 120. It explains itself. The hive is the apian book, the skepist reads his upside down—an unscholarly position—the bees resent the indignity, fustian rag smoke is blown up amongst them, and the living type to be read drop from their position amongst its leaves, or combs. These are sealed by being skewered fast with five or six cross sticks through them; they cannot be moved or turned. They are peered into like a sealed book, and the peerer turns on his heel and imagines a thing or two. On the other hand the framist can by gently withdrawing a slide on either side read one leaf without disturbing the rest, or page by page as he inclines; or for more careful study transfers them all to his observatory, which, like a glazed newspaper stand, can be perused on both sides by different students at one and the same time, and with what different conclusions from the skepist! Take fertile workers as an example. These were first noticed by Riem, the rudiments of the ovary in all workers established by the clever anatomist Miss Jurine, their experiments confirmed by Huber and all apianians down to our own Woodbury, parallel instances occurring in the humble bee, the wasp, and the ant, in each case, like the hive bee, an exclusively male progeny resulting. I have possessed on several occasions, even in one season, queenless nucleus with fertile workers depositing one to four drone eggs in worker cells. "A LANARKSHIRE BEE-KEEPER" has had such frequently, and, to dispose for ever of all cavillers, offered this last summer the fertile worker for public inspection, and that able entomologist Mr. R. J. Bennett has quite recently given his testimony. But what does Mr. Pettigrew write?—"I fearlessly affirm that there never was and never will be a fertile working bee." I respectfully submit, Is this the language of "a lover of truth more than his own opinions?"

Long before Mr. Pettigrew came amongst us I pointed out the necessity on breaking-up hives of keeping separate and distinct the sealed from the unsealed honey; his pet twice swallowing and disgorging theory I much fear is without any foundation in fact. According to it we storifiers would see the honey deposited in the body during the day and at night transferred to the supers; on the contrary the honey gathers stream right up to the supers with their loads. In the observatory the individual bee can be traced from the entrance direct to the upper honey cell, and the extraction of the watery and aerial element before sealing, which enables the sealed honey more readily to consolidate and keep.

All animated nature must rest; even the busy bee, as I have already put it, enjoys its well-earned repose. Your correspondent may not be aware bees work in relays. We readers of the open book—the observatory—can at all times see the parties on as well as those off duty, either by night or day. Ceaseless toil is but the skepist's dream.

Under like favourable circumstances after many years' obser-

vation we have never had the good fortune to see workers setting eggs, or yet met with any bee-keeper who had. Being so profoundly ignorant of the matter I would be delighted to receive information how it is gone about. Are they carried like pollen? To the supporter of the egg-setting theory I would suggest a little experiment. With a needle remove and set artificially say the lucky baker's dozen, and kindly report the number of chickens hatched. On trial it will be found that egg-setting is easier talked of than effected.—A RENFREWSHIRE BEE-KEEPER.

OUR LETTER BOX.

HOUDANS (J. C. C.).—If you wish to have the strain less dark mate with a light-coloured hen. If the same coloured plumage is wished to be continued mate with a dark hen.

INCUBATORS (J. L.).—We cannot give you any information. Those who make them should advertise them.

AVERAGE FARM CROPS (A. B. C.).—These vary extremely according to the nature of the seasons. On ordinary good land in the midland counties the following may be described as average crops.—Wheat, 4 quarters 2 bushels (63 lbs. to the bushel); barley, 5 quarters (56 lbs. to the bushel); oats, 7 quarters (42 lbs. per bushel); beans, 4 quarters; peas, 3 quarters 4 bushels; turnips and Swedes, 22 to 24 tons per acre; mangolds about 30 tons. As instances of the variation of crops we know land that in 1868 yielded 8 quarters of wheat per acre, the same land in 1876 only producing 2½ quarters. We have also known upwards of 70 tons of mangolds per acre.

PARROT (Cardiff).—Ask your surgeon to look at the lump in the bird's throat. He could tell whether there is matter in it that could be removed by opening the lump.

CHANGING THE POSITION OF HIVES (C. P., Herts).—Let your bees remain where they are till after Christmas, when they may be safely removed. On placing them in another position let everything like a hive or cover of a hive be removed from their present place, and every vestige of the present stand, for if anything of the kind be left some bees flying around their old haunting place may alight on it and be chilled. January we think is the best month for removing bees from one corner of the garden to another.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.						Rain.
1878.	Baromet- ter at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		In.		
Nov.		Dry.	Wet.			Max.	Min.	In sun.	On grass			
											deg.	
We. 20	30.412	40.3	38.9	N.	41.0	44.7	34.4	50.0	32.8	—		
Th. 21	30.155	40.1	37.9	N.	41.1	43.0	38.2	47.8	36.2	—		
Fr. 22	30.072	39.0	36.5	N.	41.0	41.0	37.9	45.0	32.8	—		
Sat. 23	30.026	35.4	34.8	S.W.	40.6	41.2	30.0	53.1	25.8	0.030		
Sun. 24	29.593	37.3	37.0	S.	40.0	52.3	34.5	52.3	30.5	0.134		
Mo. 25	29.329	31.8	30.2	S.	42.2	33.5	37.0	63.9	37.2	0.050		
Tu. 26	29.479	39.7	38.6	N.W.	42.6	43.6	37.9	45.5	37.3	0.261		
Means	29.896	40.5	39.1		41.2	45.6	35.7	51.1	33.2	0.475		

REMARKS.

- 20th.—Fine pleasant day, but without sunshine.
 21st.—Clear, bright, very fine day; starlight night. [and dry all day.
 22nd.—Clear fine morning, overcast and rather dark after 11 A.M., but fair
 23rd.—Frosty morning and slight fog, sunshine for short time in middle of day, gloomy and cold rest of the day.
 24th.—Wet morning, thick, gloomy, and damp all day; heavy rain at night.
 25th.—Warm damp morning, little sunshine between 11 A.M. and 1 P.M.
 rest of the day dry, but gloomy. [day.
 26th.—Damp morning, rain commenced at 11 A.M., very gloomy rest of the
 Average temperature nearly the same as during the previous fortnight.
 It would have been much lower but for the sudden warmth of the 25th.—
 G. J. SYMONS.

COVENT GARDEN MARKET.—NOVEMBER 27.

WE have no alterations to report from last week. Business quiet.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	dozen	10	0	0	Melons.....	each	0	0	0
Beans.....	bushel	0	0	0	Nectarines.....	dozen	0	0	0
Chestnuts.....	dozen	0	0	0	Oranges.....	dozen	0	0	0
Figs.....	dozen	0	0	0	Peaches.....	dozen	0	0	0
Filberts.....	dozen	0	0	0	Pears, kitchen.....	dozen	0	0	0
Cobs.....	dozen	0	0	0	dessert.....	dozen	3	0	0
Grapes, hothouse	dozen	1	6	0	Pine Apples.....	dozen	2	0	0
Lemons.....	dozen	10	0	0	Walnuts.....	bushel	0	0	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	dozen	2	0	4	Mushrooms.....	pottle	1	6	2
Asparagus.....	bundle	0	0	0	Mustard & Cress	punnet	0	2	0
Beans, Kidney.....	dozen	1	0	1	Onions.....	bushel	2	6	0
Beet, Red.....	dozen	1	6	0	Pickling.....	quart	0	4	0
Broccoli.....	bundle	0	9	1	Parsley.....	doz. bunches	2	0	0
Brussels Sprouts	dozen	2	0	0	Parsnips.....	dozen	0	0	0
Cabbage.....	dozen	1	0	2	Peas.....	quart	0	0	0
Carrots.....	bunch	0	4	0	Potatoes.....	bushel	3	6	0
Cauliculus.....	dozen	1	6	0	Kidney.....	bushel	4	0	0
Cauliflowers.....	dozen	3	0	0	Radishes.....	doz. bunches	1	0	1
Celery.....	bundle	1	6	2	Rhubarb.....	bundle	0	0	0
Coleworts.....	doz. bunches	2	0	0	Salsify.....	bundle	0	9	1
Cucumbers.....	dozen	1	0	0	Scorzonera.....	bundle	1	0	0
Endive.....	dozen	1	0	0	Seakale.....	basket	2	0	0
Fennel.....	bunch	0	3	0	Shallots.....	dozen	0	0	0
Garlic.....	dozen	0	6	0	Spinach.....	bushel	2	6	0
Herbs.....	bunch	0	2	0	Turnips.....	bunch	0	2	0
Leeks.....	bunch	0	2	0	Veg. Marrows.....	each	0	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 5—11, 1878.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
5	TH	Royal Society at 8.30 P.M.	49.0	35.2	42.1	7 51	3 50	1 17	3 14	11	9 10	339
6	F	Geologists' Association at 8 P.M.	43.2	36.7	42.4	7 52	3 50	1 34	4 25	12	8 45	340
7	S	Sale of Bulbs at Stevens's Rooms.	43.4	38.5	43.5	7 53	3 50	1 56	5 37	13	8 19	341
8	SUN	2 SUNDAY IN ADVENT.	46.9	35.6	43.0	7 55	3 49	2 37	6 48	14	7 53	342
9	M	London Institution at 7 P.M.	46.7	34.9	40.8	7 56	3 49	3 9	7 53	15	7 26	343
10	TU	Royal Medical and Chirurgical Society at 8.30 P.M.	47.0	32.8	39.9	7 57	3 49	4 4	8 53	16	6 59	344
11	W	Society of Arts at 8 P.M.	46.5	32.6	39.5	7 58	3 49	5 12	7 39	17	6 32	345

From observations taken near London during forty-three years, the average day temperature of the week is 47.5°; and its night temperature 30.0°.

ZONAL PELARGONIUMS IN WINTER.

NO class of plants is more valuable for winter decoration than Zonal Pelargoniums, and no plants are more accommodating to the cultivator than they are. No flowers are more showy than these, nor better adapted for cutting purposes, for they last well in a cut state. On the plants for the decoration of the conservatory the flowers continue in beauty for a great length of time. Their flowers indeed are freely produced at all seasons, but are never more welcome than during the winter.

We have watched with much interest from time to time how some growers have weighed Vesuvius in the scales and found it wanting. This variety was at one time highly popular, but now large-trussing varieties are advocated to be grown instead. Why this should be the case we are at a loss to know. We have tried a number of the large-trussing varieties and have certainly found them fall very short of producing the quantity of flowers that Vesuvius does; and further, if we had relied entirely upon those that produce large trusses we should not have had the fine display of bloom we have had for some time past. Vesuvius through the dark and dreary months of the autumn is just as free as it is at midsummer, while the other varieties do not produce their blooms so freely in winter. We have, on plants treated the same in every respect, four or five blooms on the above-mentioned variety to one on the others. Our plants are principally grown in 6-inch pots, and many of the Vesuvius have twenty trusses open on one plant propagated in March last, while the others rooted at the same time have only three or four, and many only one and two trusses. Vesuvius produces its flowers in great profusion, although not so large in the truss, which renders it better adapted for cutting purposes, and they last when cut equally as long as the others.

Our plants are chiefly struck from cuttings and rooted during March and April in thumb-pots, afterwards potted-on as they require more root room until they are placed in 6-inch pots. As soon as all fear of frost is over in early summer, the plants previously well hardened off are placed outside on beds of ashes, and are liberally supplied with liquid manure through the summer, the shoots being stopped and the blooms picked off as they require it. We pot them as firmly as possible in rich fibry loam and sand, adding to the loam a little bone dust. The old plants that we save and repot to grow into a little larger size are rested after blooming for a time; they are then cut back, and after they have well broken they are taken out of their pots and the whole of the soil is shaken from their roots; the plants are then placed in smaller pots, kept close until they take to the new soil, and then hardened off and placed outside, and treated the same as the others. They remain outside until frost compels us to take them in.

An early vinery or Peach house where the trees and Vines have cast their leaves is a good place for them at first, or better still is a light airy house where they can be placed near the glass. As we want them to bloom we introduce

them where the temperature can be kept at 50° at night, which is sufficient to bloom them in; if much lower when the plants are in flower the petals soon damp. We have a sport from Vesuvius which is equally as free as the original, but a little larger in the truss and more of a rosy-scarlet colour; it possesses all the good characteristics of its parent, and is very useful. Wonderful will, we believe, turn out to be a good winter-blooming variety. We have not tried it largely yet, and are not in a position to say much of its merits. If for winter work with its double flowers it is as free as its parent it certainly will be great acquisition; but we shall not discard Vesuvius until we find something better.

The following varieties are worth growing for winter decoration:—Miss Strachan, Mrs. Jacoby, White Princess, Mrs. Hetley, May Queen, Harry Turner, Miss Skipworth, Rainbow, Overall, Mrs. Whiteley, Mrs. Huish, Rob Roy, Mrs. Groves, Mary Pearson, Brutus, Incomparable, Matilda, Mrs. Muster, Lady Emily, Prince of Wales. The latter comes next to Vesuvius for freeness; then Mary Pearson, Mrs. Jacoby, J. Gibbons, a good dark; and Matilda and Lady Emily are good pinks. Many others are worth growing, if not so free, for the distinct shades of colour they possess.—WM. BARDNEY, *Norris Green, West Derby.*

THE TOMATO DISEASE.

BLIGHTED TOMATOES are becoming as common as blighted Potatoes, simply because both of these vegetables are subject to the same kind of disease, arising in each instance from the same causes—a falling temperature and heavy rain; or, in other words, cold and wet. This fact renders the cultivation of Tomatoes in the open air an exceedingly speculative matter, and even when planted against walls there can be very little certainty of securing a crop unless the plants are brought on under glass and have the fruit set by the time the plants are turned out. Then by planting in rich soil, by exposing the fruit fully to the sun, by retaining only enough branches and foliage to insure a quick swelling of the fruit, to promote which bi-weekly applications of sewage or rich liquid manure should be given, we may fairly hope to save the crops before the fatal change of weather sets in during August.

A remedy which will occur to all is to plant under glass. This, however, will prove a delusion and snare if due watchfulness and care be not exercised to exclude cold draughts, especially if dull, chilly, wet weather set in. It was only last summer that I learnt this to my cost, and it may help others if I tell how it happened.

In a long lean-to Peach house many Tomatoes were planted, some close under the glass along the front and others against the back wall between the trees. At one end a considerable space of bare wall was entirely devoted to Tomatoes, and they were so vigorous that they had grown right up to the top 10 feet high, and were laden with large clusters of green fruit. To retard the ripening of some of the Peaches the ventilators were kept wide open along the top day and night, and while this was done the weather became dull and wet, and gusty winds were prevalent. Two

days of this weather with open ventilators led to the total loss of these fine Tomato plants and not a single fruit was saved. Luckily the plants along the front of the house were quite unaffected and afforded an ample supply of excellent Tomatoes, owing, no doubt, to not being immediately under the ventilators, and also to the prompt exclusion of cold draughts as soon as the disease was perceptible upon the wall plants.

Due attention being given, then, to the exclusion of cold cutting draughts, a three-light garden frame or two would afford enough fruit for the requirements of an ordinary family. In such frames it would, I think, prove a good plan to treat the Tomato as a trailer, for from the tendency of the stem and main branches to emit roots I have no doubt they would lay hold of the soil like the Cucumber, and the fruit could of course be readily kept from contact with the soil and exposed to the light on blocks or inverted pots just as Melons are.

Vick's Criterion Tomato proves to be a real acquisition. It is a strong grower and bears abundant clusters of large round fruit, most of it without any indentures, and of a peculiar crimson hue when ripe that renders it distinct from all other Tomatoes. The first batch of plants of it have been in bearing for quite four months, and were so satisfactory that next season preference will be given it for the general crop, with a few plants of Orangefield for early fruit.—EDW. LUCKHURST.

ABOUT VINES.—No. 4.

My Vines were all cut back to within about 3 feet of the base of the rafter to commence the second season. They broke strongly; and, as I think a certain index of health, they were thickly clustered with gummy globules. To let well alone I have since learned is the best practice, and if I had acted on that principle at that early stage of my experience I undoubtedly would have escaped several mishaps.

The first misfortune was with guano. I had been told to put it in the pans on the hot-water pipes. A few days after I observed that the foliage was being injured, and at the first opportunity drew a gardener's attention to the injury. The consolation I got was the remark—"Oh! but you have not kept the pans full of water." Of course I had not. I had never heard of the necessity; and then learning to reap any advantage from guano so used it was necessary to keep filling the pans, I have not used any in the pans since. To water with guano well diluted, which I afterwards did, is safe practice; and perhaps the less ammonia arising from the border is not injurious and may be beneficial, but I have had no guano this season. I still had a hankering after the fumes of ammonia, of which I had read so much, it being advised as deterring to red spider; and I concluded I would make one more trial to have those fumes which Vines delighted in and spider abhorred. I had some fresh cow manure, and mulched with it about 2 inches thick. One end of theinery I covered it over with burnt wood ashes, and the other end for the first night I left it uncovered. I thought I had enclosed plenty of ammonia, but I never had the least dread of injury. The next morning a portion of the fine dark healthy foliage was hanging, where the manure was uncovered, like Rhubarb after a frost. These leaves I removed by degrees, taking off those most injured at once.

In the middle of July a friend pointed out two Vines on the back wall which were slightly attacked with red spider. The news seriously alarmed me, but then I had read of a certain cure with sulphur. So long as the sulphur only boiled upon a heated brick or shovel I had understood there was no danger; and, moreover, I had read somewhere that sulphur was certain death to spider. Previous misfortunes made me rather cautious, but if the spider was certain of suffering before the foliage the task was easy enough. Armed with a magnifying glass, the better to observe the effect upon the enemy, I procured a leaf with some spider upon it, and set to work with the hot bricks, each brick being tested with the sulphur before being brought into theinery. To my surprise, instead of the sulphur fumes killing the spider, it only made the little pests move all the quicker, and I held them pretty close to the bricks. After doing twelve Vines on the back wall, I thought me that another night would answer the same purpose, and that I had better leave off to see how the experiment answered. The sight the next morning alarmed me. The leaves of the twelve Vines were nearly all black, and the truth is I was near despair. But the most galling thing was, on bits of green left on the Vines affected there was the spider as live as before. I then removed the leaves hopelessly dead, leaving

those partially injured, and this year I had an abundant crop of fruit. In a few days the spider disappeared, and I have not seen one in the house since. My firm belief is, if you commence when thinning to paint the hot-water pipes with plain sulphur and water, and keep your Vines reasonably healthy, no spider will injure them.

I will conclude here about Vines at present, but if anything should occur that I consider of service to the readers of this Journal I shall only be too glad to return to the subject another time.—JOSEPH WITHERSPOON, *Chester-le-Street*.

TEA AND NOISSETTE ROSES.

I CANNOT conceive why anyone should wish to write down such a beautiful and fragrant Rose as Gloire de Dijon, unquestionably the finest Tea Rose in cultivation for every purpose. The commonness of this Rose is, I think, its only fault, if that be a fault, for I apprehend what makes a Rose very common is its ability to withstand every vicissitude of soil and climate, coupled with so much beauty that everyone likes to see it, and therefore everyone grows it. It has such a scent, too, that a basket of it is always welcome in a room, and to hospitals, infirmaries, and invalids in general it is a boon that cannot be replaced. What other Rose can replace it? None other, for it has no equal. Give Gloire de Dijon the same treatment that the other exhibition Roses receive and it will not disappoint you. It is too often allowed to exhaust itself with blooming, and seldom receives proper attention, in many cases none whatever; but unkind treatment will not kill Gloire any more than unkind words will make one plant of it be grown the less; it is of too good a stamp for that. Give honour where it is due, and think of the Roses we should be without had Gloire de Dijon never come to light. But the more we think of it the more we must honour it. Gloire has not won its fame in a season; it is an old and tried friend, seldom absent from its post, the delight of thousands, loved and cherished by us all, and I fear it will not be in the lifetime of any of us that so good a Rose will be raised again.

About Maréchal Niel I have nothing to say. "HEREFORDSHIRE INCUMBENT" says it is the grandest of all Roses, and I agree with him. Would that it had the hardihood to bear our climate. I object to the laudation of Madame Berard both by "WYLD SAVAGE" and "HEREFORDSHIRE INCUMBENT." I admit its fine copper colour and its vigour, but it will never become popular like Gloire de Dijon, it is too shy a bloomer for that. One plant of Gloire will give more blooms than a dozen of Madame Berard, and in my opinion superior blooms both for show or any other purpose. Madame Berard has no scent—a fatal objection to its ever becoming popular, and one that ought to carry some weight even for exhibition; for what is a Rose after all without scent?

I would suggest to "HEREFORDSHIRE INCUMBENT" that instead of naming Souvenir d'Elise twice he substitute Jean Pernet; it is a grand colour, but it needs more substance. Céline Forester is also worth a place, as it is one of the very best Roses for all purposes—vigorous grower, fine colour, richly scented, and an excellent autumn Rose. It is no doubt rather small for exhibition, but I have seen it very fine. Mr. Charles Turner always shows some grand specimens of it in pots. Is your correspondent correct about Madame Riza du Parc? It may be, as he says, the finest Tea Rose sent out for some time, but I do not like its colour, it seems to me to have no purity. It is a very good grower, fine habit, and if I am mistaken about the colour it will be a great addition. Madame Margottin is a fine Rose, but with me it has a bad habit of coming with double centres and ill scent. Why is Cheshunt Hybrid omitted? Because it is not a true Rose? Will it not be allowed to compete again as a Tea? I am sorry many of those mentioned by "HEREFORDSHIRE INCUMBENT" will not bear the Yorkshire climate; they may do so in exceptionally good situations. Homère I find is one of the hardiest, generally small, but sometimes very beautiful; unfortunately it has no scent.—F. BOYES.

EUCALYPTUS GLOBULUS.

I BELIEVE the largest Eucalyptus globulus growing in Ireland stands within the walls of the vegetable garden at Johnston Castle, Wexford, the seat of the Earl of Granard, K.P. Its height is 42 feet, circumference at 1½ foot from the ground 37 inches. When planted nine years since it was between 4 and 5 feet high. It was raised from seed there, and has con-

tinued to flower and ripen seed in abundance during the past four years. There is at present a quantity of fine young plants raised from the produce. I have no doubt its proximity to the sea (five miles) has influence over its existence. They are planted both on loam and peat. On the latter they have doubled the others in height. They are planted in open spaces but not exposed.—R., *The Gardens, Castle Forbes*.

GARDENING OF THE PAST.

ABOUT 1820 I remember that those who took pride in their gardens were in possession of many useful species and varieties of plants and fruits, which afforded them many hours of pleasure amidst the turmoil by which they were surrounded. Even in fruits there were several varieties that are still in the first ranks of the lists. Ribston Pippin Apples were grown at that time, and Keswick Codlin and Hawthornden were just coming into note, the latter fruit free from specks and produced on trees free from canker. Jargonelle Pears had a place then, and so had Green Chisel, the latter the especial favourite of schoolboys. Green Gage Plums were to be had also, and certainly May Duke Cherries were quite as good at that time as they are now. Gooseberries were general favourites, and it is interesting to remember that some of the varieties now extensively grown in the south of England to supply the requirements of the great metropolis were known at the time spoken of. Rifeman, Crown Bob, Ploughboy, and Lancashire Lad were especially popular. Strawberries had not been neglected, for good crops of Hautbois were oftener met with than then now, and Keens' Seedling was not unknown.

Turning to flowers, my memory points back to a time when many cottagers' gardens possessed rows of the double yellow Primrose as edgings to paths. These Primroses were plentiful about 1824, but about a dozen years ago I had some difficulty in obtaining a plant or two of this favourite old sort. Double Daisies were largely grown; Auriculas were also cultivated, and very good Polyanthus by those who made the plant a specialty. Stocks were very popular, and would certainly contrast favourably with the Brompton and East Lothian varieties now in vogue. Double and single Wallflowers were also in fashion; one of the most popular amongst them was the pale double yellow. The dwarf double white Rocket was a great favourite rarely seen now. The old double yellow and white Batchelors' Buttons were common then and contrasted favourably with many things that are fashionable now. Pinks and Carnations occupied a prominent place, and a bed or more of Tulips, and, if the soil suited, Ranunculus also. Hyacinths were not such great favourites, and Crocuses found a place in patches amongst the flower borders; and the most showy ribbon border I ever beheld was one formed entirely of Crocuses of different colours that had stood several years in the same position.

The Dahlia came prominently into notice soon after 1826, first as a single flower, then semi-double, and eventually double. Springfield Rival was the first important double flower that had a long reign, for it was grown through the most important period of the Dahlia's popularity, say from 1835 to 1845. The Pansy also had its admirers, and its rise as a fancy flower was even more rapid than that of the Dahlia; but the introduction of the zonal Geraniums, the Verbena, and other plants into flower beds between 1835 and 1845 revolutionised the whole system of the flower garden, and it is to be regretted that some of the old flowers have been much neglected since, notably the blue varieties, or perhaps species of *Anagallis*, of which there used to be fine beds of healthy compact plants about 1840; now it has degenerated merely into a name amongst annuals. After the bedding period set in Tulips and Ranunculuses and some other flowers lost their positions, but Pinks and Carnations retained their ground. Roses were favourites then as now. I can carry my memory back to fine rows of that most superb old Rose the York and Lancaster, than which I know of nothing at the present day to compare; also Moss Roses and the old Tuscan and the common bluish China to cover walls, &c., were plentiful. The first worked standard Rose I ever saw had more attractions than any I have seen since, for it had three or four varieties all worked upon it and all in flower at the time, the common China and a pale Moss being two, while the old French White yields to none at the present day for sweetness.

Our gardens are now enriched with many things our elders never possessed; still we must not deny them the merit for what they had done, as they bequeathed us a host of useful

plants the beauty of which still forms so important a feature in our gardens. We must not despise what was done in the olden times, when such shrubs as Lilacs, Laburnums, Rhododendrons, Camellias, Myrtles, Laurustinus, &c., were introduced, and which will long retain a prominent place amongst our cultivated plants.—J. ROBSON.

DECORATIVE USES OF CONIFERS.

IN a preceding number of the Journal Mr. Wright called attention to the usefulness of Conifers, hardy shrubs, &c., as winter-bedding plants. Messrs. Veitch's grand and suggestive collection staged at South Kensington on October 15th not only looked attractive as arranged in baskets, but the shrubs would look equally well if bedded-out during the winter and the summer months. This all who have seen the two large beds filled principally with this class of plants in the grounds of the Crystal Palace will, I think, readily admit; therefore I would suggest the advisability of having permanent beds of small Conifers, &c., somewhere in the ground, which, if tastefully arranged, would attract much attention at any time, for the shrubs, &c., referred to are emphatically fine-foliaged plants.

There have of late years been many fresh introductions of Conifers, some of which are decided acquisitions and deserve to be better known than they are. What adds to their value is their extreme hardiness, which admits of their being grown in many places where the more expensive luxury of a stove is not indulged in. Some of the varieties of Conifers are not perfectly hardy; these, however, may be grown in pots or tubs in a cool house, and not only these, but others of known hardiness may be similarly grown, and they with very little trouble will be found to give quite as much pleasure as most kinds of tender plants. During the summer months specimen Conifers are extremely useful for standing in groups or singly on wide paths, drives, terraces, &c., or plunged in suitable places in the turf. Instead of Conifers we frequently see in front of villas, &c., miserably grown Pelargoniums in large pots, which look anything but attractive. Of course in large places where Conifers are extensively planted out there is not so much necessity for keeping them in tubs. In places of limited extent, if the plan of growing them in tubs is followed and ordinarily fair treatment given, a great variety of attractive specimens may be had which anyone might be proud of owning.

Tubs are preferable to pots for Conifers on account of the latter, unless plunged, being liable to be broken by frost, and also tubs do not absorb the moisture from the soil to such a great extent as pots do when exposed to solar heat. Fair-sized (medium-priced) plants should be started with, using tubs 18 inches in diameter and 17 or 18 inches deep, and these look extremely well "oak-grained," the iron hoops and handles being painted black. No particular mixture of soil is necessary; two parts of turfy loam to one of leaf or peat soil, with a light addition of sand and decayed manure, will grow them well. Failing this, the best garden soil obtainable may be used; to this should be added, if rich and heavy, broken crocks, mortar rubbish, or sand in sufficient quantities to keep it porous; if light and poor a good quantity of old manure. Good-sized pieces of crocks or mortar rubbish may be advantageously used in any kind of soil, as they not only keep it open, but also help to keep the roots from too quickly penetrating to the sides, thus utilising the whole of the soil. The tubs or pots should be carefully drained, the plants well and firmly placed in them, and the soil should never be allowed to become dry, as Conifers, I believe, have their root-action constantly on. The tubs should be raised on blocks or bricks, as the tubs will then last much longer and will be also out of the reach of worms, which are apt to take possession of them much to the plants' injury, especially in the early stages of growth, before the roots have fairly taken possession of the soil. When the plants are well established an occasional dose of liquid manure will be very beneficial to them, and, in fact, is almost indispensable when they have to remain in the tubs some years. Messrs. Barron & Son, Borrowash Nurseries, near Derby, have of late years exhibited Conifers in tubs successfully at the great horticultural shows. At Preston they gained the first prize, staging good plants of the following, the names of which I append and also a few brief notes taken on the ground:—

Abies Parryana (native of Colorado).—The hardiest of the Spruce Firs. Is very glaucous and attractive.

Abies Alcockiana (Japan).—Of good habit, very hardy, ornamental, and free-growing. The under side of the leaves

is very glaucous, and they remain on the trees for several years—an unusual feature.

Abies polita (Japan).—Very distinct, hardy, robust, and free-growing. Leaves bright green, which stand out boldly, and these, too, remain on the trees many years.

Abies Pattoniana (California).—A distinct and handsome species of the Hemlock Spruce section, which is not so generally grown as it deserves to be.

Arthrotaxus selaginoides (Tasmania).—This belongs to a genus generally considered too delicate for this country, but this species has proved itself perfectly hardy. It is very distinct, of a fine golden tint. No collection is complete without it.

Abies (*Tsuga*) *Sieboldii nana*.—Probably the most distinct of this section. Naturally dwarf and graceful. It is very hardy and rather scarce.

Cupressus Lawsoniana lutea (garden variety).—Of free-growing dense habit, and probably the best golden-coloured Cypress extant.

Dacrydium Franklinii, the Huon Pine (Tasmania).—A very interesting and distinct species, the growth of a beautiful green colour, very pendulous, and graceful. Well adapted for crowning or planting in rockeries.

Picea magnifica (California).—Somewhat resembling *Picea nobilis*, but is more robust and of greater value from the fact of its being about a month later starting into growth, thereby escaping the May frosts, which are frequently so disastrous to this section of Pines. The timber of this species is known to be the best of this section.

Picea bifida firma (Japan).—Of unusual bold foliage, and is an excellent and distinct variety. This, too, is, like the preceding, about a month or six weeks later starting into growth.

Pinus Jeffreyi.—Considered one of the best of the Californian Pines, is handsome, and the constitution good. Foliage of a pleasing bluish green.

Podocarpus alpina (Tasmania).—This genus is not generally considered hardy, but this species, however, is probably the hardiest, and is but little known. The Yew-like growth is naturally pendulous and is very attractive.

Retinospora plumosa aurea (garden variety).—One of the best Golden Conifers. Well adapted for nearly any position or use.

Retinospora plumosa argentea (garden variety).—Of dense compact growth. The tips of the branchlets are white. A very hardy and effective variety.

Retinospora filifera (Japan).—As the name implies, the branchlets are like so much whipcord. Is perfectly hardy, and is very effective planted in rockeries.

Sciadopitys verticillata (Japan).—This is better known as the Umbrella Pine, so called from the umbrella-like disposition of its leaves. It is a remarkably distinct variety, but unfortunately of doubtful hardiness; it is, however, becoming more acclimatised, and doubtless will succeed in well-drained and sheltered positions. In Messrs. Veitch's Coombe Wood nursery it thrives exceedingly well, never failing to attract the visitors' attention.

Taxus Dorastonii aurea (garden variety).—A variegated form of the Dovaston Yew, remarkable for its almost regular tiers of decidedly pendulous branches.

Taxus adpressa (Japan).—A distinct and highly ornamental Yew with very short dark green leaves.

Taxus baccata aurea (garden variety).—A very hardy and free-growing golden Yew. Easily trained into various shapes. Many remarkable examples of pyramidal and other modes of training this variety are to be seen in the grounds at Elvaston Castle, Derby, some of which may be correctly described as resembling pillars of gold.

Thujaopsis dolabrata (Japan).—Considered one of the most beautiful of evergreen trees. In most districts perfectly hardy. Of good pyramidal habit; the foliage deep green, very elegant, and of great substance.

Among the one hundred hardy plants exhibited by the same firm at the Preston Show there were a few newer and very attractive varieties of Conifers, which will eventually become very popular. These included nice plants in pots of

Retinospora tetragona aurea (garden variety).—Considered the loveliest of all the *Retinosporas*. It is of moderate growth, well furnished with horizontal branches, tufted at the extremities with tetragonal or four-edged pendant branchlets of a beautiful golden colour, which in time change into a deep green—a strong proof of a good constitution.

Retinospora obtusa compacta.—An excellent variety for pot culture or small gardens.

Picea concolor (Colorado).—A new hardy and distinct species. The leaves are long and of a beautiful glaucous blue.

Cupressus Lawsoniana pyramidalis alba spica.—Considered the best silver-variegated Conifer; no collection complete without it, and

Cupressus Lawsoniana lutea (new garden variety).—Of free-growing dense habit, and probably the best golden-coloured Cypress extant. This and preceding variety are perfectly hardy.

Chamaecyparis sphaeroides aurea (new garden variety).—In the way of *Cupressus Lawsoniana lutea*. Colour very good, habit compact.

Taxus baccata Elvastonii aurea.—This is a very distinct variety of a bright orange self colour, which it retains to a remarkable degree during the winter. It is a sport from the common Yew, and the original branch is still to be seen growing vigorously from one of the many remarkable clipped specimen Yews at Elvaston Castle.

Wellingtonia gigantea lutea.—A sport from the *Wellingtonia gigantea*, possessing most of the good qualities of that variety, in addition to which the young growth is very golden, changing in late autumn to a beautiful green, consequently is perfectly hardy.

All the varieties mentioned are undoubtedly well tried and selected from the almost innumerable varieties of modern introduction, and offer an equally good selection either for tub culture or for planting out on lawns, &c.—W. IGGULDEN, Orsett Hall.

MARÉCHAL NIEL ROSE—DISBUDDING.

MARÉCHAL NIEL and many others of the class do well worked as standards on the Briar in the open, and if the branches are tied back or downwards plenty of blooms will generally be obtained, and those on the Maréchal being pendant will be well protected and shaded. Many complaints have been made that this Rose when worked on the Briar goes off after a few years, and ultimately dies, the apparent cause of failure being a peculiar cankered swelling at the junction of the bud with the stock, and which I attribute to the inability of the roots of the Briar to keep up the great quantity of the particular nourishment requisite for the healthy maintenance of the Maréchal when fully bloomed. I have never seen the defect with this variety on its own roots. A like premature end, however, attended Maréchal Niel, which I double-worked on the vigorous and hardy Noisette America, with a Briar root. The Maréchal went off as usual at the junction, but the portion of the stock supplied by America was sound and healthy. Doubtless exhaustion, caused by the overflowering of the Maréchal, has something to do with this failing; and when the immense number of blooms which a single plant is sometimes allowed to carry, and the weight of each bloom and the multitude of large petals it contains is taken into account, it is not surprising that the drain should be inadequately met by the roots of an artificial stock. It may be urged that the massive blooms of Gloire de Dijon are almost as exhausting, and so they are, and when the old Rose is worked on the Briar it in time exhibits a similar failing, although not so early as the Maréchal nor in so marked a manner; but there is this difference between the two, that whereas Maréchal Niel has one principal blooming period—usually in spring, and draws excessively, and at one time on the roots, and perhaps before the root-action of the Briar stock is in full play—the blooming of Gloire de Dijon is more distributed over the whole year.

Surely those who would prohibit the disbudding of Roses for show would hardly extend their doctrine to Noisettes, and especially to such varieties as Triomphe de Rennes, Lamarque, &c., which in many seasons cannot properly open all the buds they show, and even when they are able to do so it must be at the cost of permanent injury to the plants. My advice to growers of the Maréchal and all over-blooming Roses, if healthy plants and good blooms are wanted, is to disbud, removing all irregularly formed and ill-placed as well as many of the smaller buds. Theorists lose sight of the fact that Nature to some extent provides a remedy for this in "the worm in the bud," and whose uncertain work the zealous cultivator attempts to counteract. Setting aside the question of beauty and appearance, which at least is a matter of opinion with exhibitors, the carrying out of such a stringent rule as the prohibition of disbudding would be impracticable, for if the practice be resorted to at an early stage it is almost impossible for an experienced eye to detect it at the time of

exhibition or to distinguish between the work of the cultivator and that of his insect friend (or his enemy), or of Nature, which frequently enables an overworked Rose to throw off some of its buds. I am, however, diverging too much from the main subject of my paper, and would just add that if planted in a south aspect Teas and Noisettes will be all the better for good mulchings of rotten dung at the fall, and again in April when the buds are formed, in order that the roots may be kept from the hot sun and extreme temperatures. The necessity for this is too often lost sight of, and Tea Roses, although they require a good ripening of the wood and sufficient sun for the purpose, do better when the roots are kept cool. It will be found that those planted on the north side of a fence and trained over the top do better and flower as well as those on the south side. I have frequently seen a vigorous and healthy Rose with the roots almost entirely under a hard or paved yard or roadway, where scarcely any heat can penetrate, and where the evaporation must be but slight, and the supply of air, moisture, and continuous nourishment for the roots can be obtained only very indirectly. I do not, however, recollect ever having seen a Rose do well where the roots were similarly placed under grass, which is far too exhausting, and deprives the underlying roots of both nourishment and moisture. Another good position for the more vigorous and hardy Teas or Noisettes, such as Céline Forestier, Gloire de Dijon, Climbing Devonensis, Triomphe de Rennes, Belle Lyonnaise, Rêve d'Or, &c., is to them the shelter of an old leaf or rubbish pit, the sides of which will afford protection to the Roses; these if allowed of run wild will often equal the Briar and the Bramble in vigour, and their natural beauties will be displayed in an unparalleled manner. Finally, in acknowledging the scarcely merited compliment paid to the brilliancy of my Roses by your worthy correspondent, I would repeat what I have previously stated in your pages—that I believe this brilliancy of colour, especially amongst the reds, is in some measure due to the presence of lime and a warm soil.—T. LAXTON, Bedford.

GARDEN AQUARIUMS.

HAVING discussed the question of the most suitable plants and fishes for small ornamental ponds, it now only remains to add a few words as to some of their accessories.

When the margin of the pond is nearly level with the surface the turf may be carried right up to it, and this will prove a beautiful and simple arrangement. When, however, the margin is raised a foot or more upwards a rockwork well filled with soil in the interstices may be raised against it, projecting an equal distance outwards at the base, and in this case a better finish will be given by surrounding it with a narrow gravel walk. In furnishing the rockwork simplicity should be aimed at, it being remembered that this is merely the bordering of a more important central object. The selection will therefore be chiefly made from small plants, such as Sedums, Saxifrages, and the like, to the exclusion of large Ferns and tall-growing plants, which would scarcely harmonise with the position.

To give a detailed list of all that could be utilised would be equally tedious and unnecessary; I shall therefore offer only one more illustrative selection, such as I have found very effective during the past summer.

I made the Sedum acre the basis or groundwork of the whole arrangement. This lovely though common species, which may often be seen in country villages glorifying with its rich bloom the old thatched cottage roof and farm buildings, is invaluable for our purpose, giving effective masses of green foliage throughout the year, and a vast profusion of rich yellow flowers lasting for a month or six weeks in the height of summer. Equally valuable is Sedum glaucum, the tufts of which form turquoise green cushions which mould themselves to the rockwork and form an effective contrast. Sedum Lydium, again, has much the same habit of growth, and forms a bright relief of emerald green with red variations. The single columnar stems of Sedum montanum render it available for any odd nook, where it produces late in summer large terminal blossoms. The variegated foliage of Sedum acre elegans, the white blooms of Sedum album, the large yellow flowers of Sedum grandiflorum, and the pink and whitish blooms of Sedum kamschatkianum render them all valuable additions interspersed at intervals.

A few Sempervivums, such as *S. californicum*, *S. tectorum* (or the common Houseleek), and *S. arachnoideum* may be inserted here and there; while of the Saxifrages a fair selection

will include *S. nepalensis*, *S. pyramidalis*, *S. pinnatifida*, *S. Aizoon compacta*, *S. hypnoides*, and *S. rosularis*. I must not omit pointing out the value of *Saponaria calabrica*, a creeping plant of free growth, which yields a long profusion of small pink flowers during the summer. A few tufts of *Rhodea japonica* are effective at intervals, and if space permits the miscellany may be completed with such forms as *Arabis albidula*, *Antennaria tomentosa*, *Aubrietia purpurea*, *Veronica incana*, and I had almost forgotten the common London Pride.

The plants named if judiciously arranged on rockwork form an appropriate margin to a miniature ornamental pond in an exposed position, and contribute much to the attractions of a "garden aquarium."—J. P.

FORCING VEGETABLES.

POTATOES.

NOW is a good time to make preparations for forcing Potatoes in frames, but as I referred to this matter some time ago what I have to say now will only be a brief reminder. Leaves, which can be had plentifully now, and a little littery manure, will supply the requisite heat. These should be thrown together in a heap and allowed to lie for a week. During this time clear out to the depth of at least 3 feet from the glass the inside of the frame in which the Potatoes are to be forced; fill up 2 feet of this space with the leaves and dung trampled as firmly as possible, then cover with 8 inches of light soil; plant the Potatoes in this 6 inches apart in rows 15 inches asunder; place on the lights, and little attention will be required for some weeks excepting on fine days, when a little air may be given. Rivers' Ashleaf is the sort we force most of. Planted from the beginning to the middle of December they are ready at Easter. Small frames 6 feet wide are suitable, but, of course, any much wider answer equally well. The lights should be securely covered to exclude frost, and provided this is only kept out the bottom manure will do the work of bringing the crop forward.—A KITCHEN GARDENER.

ASHDOWN PARK,

THE SEAT OF F. C. THOMPSON, ESQ.

OF the many new mansions that have been built in Sussex during the last decade that in Ashdown Park is one of the most remarkable for its snug sheltered position, its massive style of architecture, and the imposing aspect of its southern façade. The front terrace slopes down to a piece of ornamental water, with a wide stretch of grass land beyond, rising gently to an enclosing belt of Scotch Firs. Behind, on the north side, a somewhat steep slope affords a sunny site for the walled kitchen garden, and an outer unenclosed space for the culture of vegetables and for various useful glass structures, all well sheltered by a thick belt of trees, which covers the side of a hill so as to break the force of gales from the north or east.

As I came near the garden from the principal entrance a Peach house against the outside of the east wall attracted my attention, not simply as the most conspicuous object in sight, but by its singularly light and elegant appearance. It is a curvilinear lean-to of iron and glass 11 feet high, 7 feet wide, and 155 feet long, thoroughly ventilated, having hot-water piping to exclude frost, so that a shelf some 2 feet wide along the front can be turned to account for plant culture all the year round, the whole of the trees being trained to wires strained closely along the wall. They were in good health and vigour, and the crop of fruit was abundant both of Nectarines and Peaches. I was glad to find the Old Roman Nectarine well laden with fruit, and a favourite. I do not, however, recommend it, as we have now so many new sorts that are superior to it. Of these growing near it Lord Napier had plenty of large highly coloured fruit, then in full use, for it was in August that I made my call; Pitmaston Orange had a full crop of larger fruit than one often meets with of that excellent variety, owing no doubt to the bountiful supply of liquid manure which Mr. Down told me he was then giving the border twice weekly; Victoria Nectarine also had a heavy crop, and is much valued for its late period of ripening. Of Peaches Early Beatrice was finished, most of the fruit having been used in July; Rivers' Early York, affording a prompt succession of its handsome rosy fruit; a Grosse Mignonne with some three hundred fruit gave ample promise of carrying on the supply, with a Barrington remarkable for its large green foliage and fruit of proportionate size, and other kinds to follow. It was calculated that the crop of fruit would amount

in the aggregate to two thousand, or something like twenty fruit daily for a period of three months; and the vigorous condition of the trees gave ample promise of an equally fine crop next year. The upper end of this house is several feet higher than the lower, and I was told that in winter when the pipes are heated the upper end is apt to become too hot while the lower is comparatively cold. To counteract this fault in this and other houses partaking of its peculiar character, I may suggest that piping need only be taken from the lower end up half or two-thirds of its entire length to generate sufficient heat for the whole, the heat being quite certain to ascend to the upper end with sufficient promptitude to exclude frost however severe it might be.

The other glass houses consisted of a span-roofed conservatory on an elevated plateau near the house, with sloping banks below planted with Clematis and other choice trailers. A central stage and side shelves contained a creditable collection of plants of the ordinary type, Vallotas, Liliums, and Begonias being all well represented, while the roof was gay with lovely clusters of the delicate blue flowers of *Plumbago capensis* and the deep crimson waxen clusters of *Habrothamnus elegans*, a great favourite of Mr. Down's, and deservedly so, for it is undoubtedly one of our best greenhouse climbers, continuing in bloom throughout the year. Two vineries in the kitchen garden contained heavy crops of Grapes, which for size of bunch and berry and for finish were quite in keeping with the magnificent crop of fruit in the Peach house. Flourishing young Camellias were being trained up the back walls, and some few of the numerous flower buds were already beginning to expand, which was doubtless owing to the premature growth annually excited by the heated air in which they grow. Upon the sound policy that plenty of heating surface is true economy each house had six rows of 4-inch piping, and I strongly commend this matter to the notice of everyone engaged in the construction of new vineries, and may also usefully point to the importance of letting the pipes stand out clear from all walls as well as being raised a few inches from the floor.

Pits, frames, and a little stove all afforded a pleasant sight in the clean healthy condition of their occupants. Cream Pine Melon was fruiting well, so were some plants of Telegraph Cucumber, which latter I commend to the notice of such as find Cucumber culture a difficult matter, for they were growing in an ordinary garden frame, and had afforded an unfailing supply of fruit since April, a fruit having been cut regularly every alternate day, and a goodly number at other times. "To what do you attribute your success?" was my question. "To a regular daily attention to every apparent want of the plants," was an answer which is quite worth recording here.

The kitchen garden was remarkable for its good vegetable crops and its trim neat appearance, to which the firm walks of tar concrete materially contributed. Other walks were in course of construction of this substance, and I gladly seized the opportunity to watch the process for my own instruction and the benefit of my readers. A heap of building debris, consisting principally of sandstone, had been broken as if for a road; on this heap coal tar had been poured in the proportion of one part of tar to three of sand; it was then turned over, well mixed, and would be left afterwards lying in a heap for two days; lime would then be added and mixed with it in the proportion of three bushels to twenty or thirty bushels of the tarred sand; it would then be spread upon the paths 2 inches thick, and at once pressed carefully down with a roller, sand being first sprinkled over it if prove at all sticky, or better still some small sea-beach pebbles, which impart a better appearance to the surface.

Among the vegetables a large bed of Cauliflowers was worthy of especial notice. The seed was sown on the 10th of April, the sorts being Walcheren, Carter's Mont Blanc, and Veitch's Autumn Giant. The two first were then (August 22nd) coming into use, and would afford a supply till the Autumn Giant was ready, which in due course would be followed by Veitch's Autumn Broccoli, which Mr. Down finds decidedly later than the Autumn Giant Cauliflower, and then for midwinter Snow's Broccoli comes into use.

The outside of the west garden wall was devoted entirely to ornamental climbing plants, and was certainly an agreeable and striking sight, being well covered with a mingled growth of Clematis, Ceanothus, Cotoneaster, Escallonias, Bignonias, Pyracanthas, Magnolias, and Glycine, with numerous Fuchsias forming a charming fringe of green and crimson along the bottom of the wall, and some Hops embowering an arch over

a door. Narrow borders of hardy perennial flowers fringe the garden walks, Phloxes and Fuchsias being pleasingly conspicuous, and among numerous pretty plants some yellow Oxalis told well with rich deep crimson tufts of *Linum rubrum grandiflorum*, and a very dwarf dark velvety-flowered Scabious called *nana flore-pleno*.

The terrace lawn had well-filled flower beds, on which I need not dwell, except to notice and commend a bed of mixed Fuchsias as being quite as charming an innovation as the beds of Begonias which I have seen in a few other gardens.

The collection of shrubs is a good one—pleasant to behold, because all are in a flourishing condition. Special care has been devoted to the planting, every shrub or tree having had a little rich soil placed round the roots to give it that successful start, to which secure staking to prevent mischief from wind till the roots have laid well hold of the soil also contributes.

The garden is not a large one, but it is eminently worthy of commendation for the skilful culture and painstaking care evinced in every department, and I heartily congratulate Mr. Down on work so well done and abilities so well applied. —E. L. O.

DRESSING CARNATIONS.

INCONTESTABLE evidence of the power of dressing flowers in winning prizes has been adduced. If I am the best grower of Carnations in England, and I obtain previously to the exhibition the aid of the best dresser, I can then compete in many more classes than I possibly could do if I had not been so aided; that is so if I happen to be a bad dresser, and much more so if I am a good one. In such a case the novice introduced on page 404 by Mr. Dodwell would manifestly exhibit at a great disadvantage; indeed except under those conditions I fail to perceive that he would have cause for complaint. I have placed the matter so as to show the unfairness of the practice in question, and am as far as possible from suggesting that Mr. Douglas would knowingly take an unworthy advantage of any competitor. No one has less reason to do so than he has, and it is simply impossible in my opinion that anyone who is free from prejudice can defend a practice of the nature indicated when its full scope is appreciated.

I have not read the rules of the National Carnation Society, but I readily accept the word of Mr. Douglas that he has not infringed them; but surely that does not prevent me challenging a practice that I consider seriously objectionable. If a precedent is necessary for such a course I can produce one. When Mr. Douglas protested, in much stronger language than I have employed, against an exhibitor who defeated him with Hyacinths, the said exhibitor did not infringe any rule. According to the conditions of the Society he was legitimately entitled to the prizes, although another had aided him in obtaining them; but that did not, and properly so, prevent the strong protest referred to.

I need not discuss the subject further. I have never won a prize with flowers dressed by another hand than my own, and I never shall. Mr. Beachey has placed the matter in its right light, and there I leave it. I have not in this controversy thought of ascribing an unworthy motive to anyone, knowing that such a course would have weakened, not strengthened, my position. I close with a prediction that the time will surely come when public opinion, in spite of old authorities, will compel exhibitors to dress all their own flowers.—A STAFFORDSHIRE GROWER.

EXHIBITING CHRYSANTHEMUMS.

In your report of the late Chrysanthemum Show held at the Westminster Aquarium on the 19th inst. I observe that you describe the flowers in the stand from Liverpool as having been "hideously set up with ornamental papers underneath each flower." Many growers in this neighbourhood think that if it is considered bad taste to set up flowers on ornamental papers the matter might be discussed in a friendly spirit, and let growers both north and south be made aware that the practice, if wrong, should be done away with. It has been the custom in Liverpool for many years to exhibit Chrysanthemums on ornamental papers, and London judges have not yet complained of that mode of exhibiting.—W. TUNNINGTON, *The Gardens, Calderstone, Liverpool.*

EARTH WAX.—AN account of this wax, scientifically known as ozokerit, which is mined in the Austrian province of Galicia,

appears in the number of the "Proceedings" of the American Chemical Society. This substance occurs at depths ranging from about 160 to 320 feet below the surface, in certain petroleum-bearing strata, along the northern foot of the Carpathian Mountains. It is found in lumps or layers from 1 to 3 feet thick, and is of a pure honey-yellow colour, with the hardness of beeswax. The better qualities of this earth wax are manufactured into ceresine, a substance hardly distinguishable from beeswax, and sold as such in Russia, to which country large quantities are exported.

GROS COLMAN GRAPE

ALONG with this I send you a medium-sized bunch of Gros Colman Grape, it being one of thirteen bunches on one rod growing in our Muscat house. It is sent for your opinion, and under the impression that this grand late Grape has not yet, and never will, take its proper position until it is cultivated in a high Muscat temperature, under which circumstances it is found here to very far surpass the quality of any that have been produced in a Black Hamburgh house. It is not now so "well up" as it will be six weeks hence; but I think you will, to say the least of it, find the sample sent much superior to the character generally accorded to this noble Grape as regards flavour.—D. THOMSON, *Drumlanrig*.

[The bunch of Gros Colman which we have received from Mr. Thomson is the finest of that variety we have ever seen; large and handsome, weighing 3 lbs. 14 ozs., and with berries some of which measure $1\frac{1}{4}$ inch in diameter, as shown in the engraving of them. The bunch sent to us shows how well this valuable Grape can be grown, and how desirable it is that it should be more extensively and better cultivated than it has been hitherto. A native of the East, it requires a temperature equal to that of the Muscat of Alexandria, and with this treatment Mr. Thomson has succeeded in establishing the reputation of this Grape, hitherto much reviled by those who did not know how to grow it.

The history of Gros Colman appears not to be very well known, and a question has lately arisen as to the correct orthography of the name. It was introduced to this country from Angers by Mr. Rivers about twenty years ago, and, as he informed me, he discontinued growing it because it did not ripen in a house where Black Hamburgs were grown. It was subsequently introduced by the late Mr. Standish when he first went to Ascot from M. André Leroy of Angers, and as he treated it as a late-ripening variety requiring a great amount of heat he succeeded in ripening it perfectly. The bunches were small and cylindrical, closely set with large black berries, but in no respect approaching the one that is now before us. Mr. Standish always spoke in high terms of Gros Colman, and it is mainly to his recommendation of it that it has been dispersed over the country. It has now fallen into the hands of skilful Grape-growers who know how to bring out its merits, and it will become one of the grandest of our late-ripening and long-keeping Grapes.

Gros Colman is the name by which it was introduced, and it is under that name that it first appeared in M. A. Leroy's catalogue of 1860. It seems to have travelled westward from the East, for in the catalogue of Jacquemet-Bonnefont of

Annonay for 1858 it is mentioned by the name of Gros Colmar. In that of De Bavay in 1852 it is called Gros Colman, and this is the earliest record I can find of it in nurserymen's lists. It can be traced through Germany, where it has been for many years known as Gros Kölner, and it is of this name that the French Gros Colman and Gros Colmar are corruptions. Through Germany we trace it eastward through Austria and Hungary, where it is grown under many names, among others those of Karzhina, Zherri, Seleniack, Vronck, Kapzhina, and Velka Spina. Our figure represents merely the shoulder of the bunch.—H.]

SEASONABLE NOTES ON FORCING FLOWERS.

PREPARATION must now be made for forcing in earnest. Gardenias are always acceptable. Plants in a forward state



Fig. 64.—Gros Colman Grape—Berries natural size.

plunged in bottom heat of 75° , and with a brisk moist top heat of about 70° , they will soon swell the buds, but the plants at a great distance from the glass. *G. florida*, *intermedia*, and *Fortunei* are most suitable. *Tabernaemontana coronaria flore pleno* well set with buds is amenable to similar treatment, and its flowers are as fine as Gardenias. *Eucharis* that has been kept in a cool house, now plunged in bottom heat of 85° and top heat of 70° to 75° , will throw up the flower scapes readily, few flowers being more acceptable at the new year. *Clerodendron Balfourianum*, which has been resting for some time, should be brought into the stove or house with a temperature of 65° to 70° , and having a good soaking of water and a top-

dressing given, but not disturbing the roots much—merely removing the loose surface soil, replacing with fresh loam and well-decayed manure, will with good attention give a quantity of flowers in a few weeks; indeed no plant affords so much bloom as this, or is more accommodating. *Jasminum Sambac flore-pleno* will keep on flowering all the winter with little excitement.

Lily of the Valley should be introduced to heat at intervals, so as to secure a succession of flowers, which are always welcome. It is mere waste of room to pot clumps without any regard to the size of the crowns, as is often the case with homegrown plants, which afford many more leaves than flowers. Imported clumps, for the most part, have crowns with flowers in them. In using home-grown plants only the strong-blooming crowns should be chosen, potting them about an inch apart in pots or pans, the points of the crowns being level with the surface. They should be plunged in ashes to the rim, and be covered a few inches in thickness with cocoa refuse or other light material. If placed in frames so that heavy rains and snow can be kept from them it will be an advantage.

Where Hyacinths are wanted early a few of the earliest potted should now be placed in heat, assigning them a position near the glass, and not warmer than 50° to 55°. Narcissus also, and Tulips, with Scillas should also be introduced, and if they are taken from the plunging material they must not have the growth subjected all at once to full light, but have flower pots inverted over them, which, admitting light by the holes in the bottom, will cause the growth gradually to become green, when the pots should be removed altogether.

Pot Lilacs well furnished with bloom buds, and place the plants or bushes in a house with a temperature of 55° to 65°, and in due time they will flower splendidly and be much prized. The white Lilac is most preferable, requiring no blanching as is sometimes practised with the purple. If the purple-flowered be wanted white it must be grown in a dark house or have light excluded, but its flowers are very desirable grown in light from their lilac colour and sweetness.

Azaleas Belgian, pontica, and mollis var., *Rhododendrons* of the early-flowering hybrids, such as *Nobleanum*, *Early Gem*, *Caucasicum album ciliatum*, *coriaceum*, *limbatum*, *altaclarensis*, *Brilliant*, *Wellsianum*, *Rosamond*, *Marian*, *Mars*, are all valuable for forcing, not omitting *fragrans*, *Govenianum*, and *odoratum*, which with *ciliatum* are sweet-scented; *Kalmia latifolia*, *K. myrtifolia*, and *Daphne cneorum* major should all be potted and placed at once under glass, for the roots suffer if the soil becomes frozen. They do fairly well plunged in ashes over the pots in a sheltered situation, from whence they may be draughted to the forcing house as required, but a house or pit is preferable, having means of excluding frost. Other shrubs for forcing are *Deutzia gracilis* and *D. crenata flore-pleno*, *Prunus sinensis alba flore-pleno*, *Viburnum Opulus* and *V. plicatum*. All these should be placed under cover without delay, or have the pots plunged in ashes.

In lifting plants from the open ground a fair amount of root must be preserved to each, for, however desirable it may be to limit the size of the pots, the reduction of the ball or roots may be carried too far.

Spiræa (Hoteia) japonica and *S. palmata*, and *Dielytra spectabilis* should also be potted; they, like the shrubs, being best in a cool house just safe from frost. A commencement may now be made with forcing all the preceding, introducing the requisite number of plants at intervals of about three weeks, so as to keep up a succession of bloom. Where there are vineries and Peach houses at work there will be no difficulty in forcing the shrubs and plants named, but separate structures are very much better for this work.

Andromeda floribunda, Christmas Roses, and *Laurustinus* will be sufficiently accelerated by being placed in an ordinary greenhouse. Violets in pots should be placed near the glass and be ventilated freely, not allowing the plants to suffer by want of water, giving them weak liquid manure occasionally. Those in frames can hardly have too much air whenever the weather is mild; removing every yellow or decayed leaf as they appear is a ready mode of avoiding damping-off, along with ventilation when the external air is above 35°.—A CONSERVATORY FOREMAN.

MANETTI VERSUS BRIAR STOCKS.

As I have always been an advocate for the Manetti as a stock, I venture to say a few words with regard to "W. H. J.'s"

remarks on page 405. When anyone can afford to dig deep trenches, put in clay or marl at the bottom, then add fresh soil with cow dung and pig manure, there is no reason to doubt that the coarser and stronger roots of the seedling Briar will succeed, and the more delicate and smaller fibres of the Manetti roots would most probably perish. Cuttings from the Briar, just like seedling Briars, form much coarser roots and answer well in strong soil, and also in highly manured unctuous soils; but the question which we still have to bear in mind is, Which is the most generally useful stock in the ordinary garden soil, neither heavy clay or blowaway sand, or stony brash? Briar cuttings may be budded either on the stem of the cutting as the Manetti, or the shoots as on the ordinary hedgerow stock, just according to the state of the cutting or the bark. If Roses on Manetti stocks are too highly fed there is an inclination to produce succulent shoots without much bloom in the autumn; but properly pruned Roses on the Manetti in the summer, on ground that suits them, rarely fail to produce good blooms. I cannot agree, therefore, with "W. C. A." that Manetti are falling into disrepute, although I quite agree with "D." that in many soils more attention is being devoted both to Briar cuttings and seedling Briars.

I have had a Manetti shoot sent me by the Editors from Ireland, which has more the appearance of a sucker than anything I have yet seen, but I refrain from making any definite remarks till I receive, as I have been promised, a plant of Charles Lefebvre with a decided Manetti sucker on it. Mr. Hinton has somewhat shaken me in my definite assertion that all so-called suckers of the Manetti are merely developed wood buds on the cuttings which had not been removed prior to budding, or afterwards when planted.

I quite agree with "D." of Deal that with a few exceptions this has not been a favourable year for Roses. It is a good sign to note how English-raised Roses are gradually coming to the fore, and we may well hope that this state of things will continue.—C. P. PEACH.

GRAPES AND PEACHES IN ONE HOUSE.

OFTEN many people with a limited number of glass houses like to grow as many things in them as possible, and those with only one or two houses, or say one vinery, would no doubt be pleased to grow both Vines and Peaches in the same structure. This plan is generally considered impractical—an inference drawn probably from the dual cultivation not having been properly tried in suitable structures. As we have found that nothing answers better than growing Grapes and Peaches in the same house, that house and its arrangement may perhaps be usefully described. Than this vinery and Peach house combined we do not possess a more profitable structure. The house is a lean-to, 60 feet in length and 16 in width. The back wall is 16 feet high, and the front of the house, glazed to the ground, is 5 feet high. Three Peach trees are planted in the inside border 4 feet from the front lights, and are trained to a trellis that is arched to the path near the back wall, and from thence is continued vertically to the roof. The whole of this trellis is covered with the Peach trees. From the point where the trellis reaches the roof—6 feet from the top—the roof is unoccupied, and thus light is afforded for Peaches on the back wall. These are three standards. The lower part of the wall, not covered with the branches of the Peach trees, is occupied by a *Maréchal Niel* Rose—a wonderful plant that has made 500 feet of growth in twenty months and yields hundreds of grand blooms. It is a surprise to all who see it, and affords evidence that this superb Rose thrives well in a somewhat shaded position.

Now to the Vines. There are twelve of them planted 5 feet apart. They are planted along the front of the house with their roots outside. The rods are denuded of foliage until they reach the roof for the purpose of admitting light to the Peach trees. The bearing portions of the Vines are trained up the roof until they reach the upright Peach trellis, the rods being 11 feet in length and are 3 feet above the Peaches; this distance and the ample front glass admit a sufficient diffusion of light for the trees.

The house is not artificially heated. At the present time it is freely ventilated night and day. From the beginning of March it is kept close unless the temperature rises very high, when air is admitted. During February the *Maréchal Niel* shows signs of forming flower buds. When the house is closed these soon swell, and in April the fine crop of blooms is secured. When February is mild the buds of the Peach trees

are generally swelling by the beginning of March, and they are soon in full flower after the house is kept close. The fruit forms early in April, and during July and August it is gathered. At the same time the Vines are not idle, as by May the bunches are formed, and the crop is generally quite ripe by the middle of September.

As a rule the six Peach trees bear over thirty dozen fruit, the twelve Vines twelve bunches each. The Peaches are Noblesse, Prince of Wales, Royal George, and a Victoria Nectarine; the Vines, Black Hamburg, Black Alicante, and Lady Downe's. The fruits of both Peaches and Vines are always exceedingly fine, as every person remarks who sees them. No particular treatment is carried out. When the weather is hot outside the ventilators are opened freely, otherwise they are kept close; in cold weather the inside is kept rather dry. All the Peach tree roots are inside. They are very freely watered throughout the year. Much attention is paid to keep every leaf clean. The side shoots of the Vines are kept closely pinched to one leaf beyond the bunch, so that there are spaces between them to admit light to the Peach trees. We always think we obtain a double crop out of this house, and the cost of producing the whole is trifling.

About November, when the house is damp with no means of drying it, we cut all the bunches of Grapes with a piece of the stem attached to each for inserting into the mouth of a wine bottle filled with charcoal and water, and when placed in a dry room the Grapes keep good for the greater part of the winter.—A KITCHEN GARDENER.

NOTES AND GLEANINGS.

"D., Deal," writes, in reference to the NATIONAL ROSE SOCIETY—"In my notes in last week's Journal I made an error in dates. That of the Manchester Show should be July 12th, not 14th; and as some misapprehension has arisen from my saying that the dates were fixed, I did not mean that they were *definitely* fixed, as at the meeting of the General Committee where they were arranged it was determined that they should be submitted to the annual meeting. I take this opportunity of saying that Dr. Hogg has kindly consented to take the vice chair at the annual dinner, and that a goodly gathering of rosarians may be expected."

— ON November 22nd the opening address for the season of 1878 and 1879 was delivered to the members of the DARLINGTON GARDENERS' INSTITUTE by Mr. E. Pease, the President. A peculiarly interesting portion of the address was that part of it relating to the flora of the Pyrenees on which were found many of those sub-Alpine plants which enrich the hills and pastures of Upper Teesdale. It was noted, however, that the *Gentiana verna*, *Primula farinosa*, which up the Tees bloom at a height of 500 feet above the sea, there flowered at an elevation of from 3000 to 4000 feet. On the Pyrenees were found *Anemone ranunculoides*, *Primula integrifolia*, *Corydalis solida*, *Dentaria digitata*, *Cardamine pyrenaica*, *Pinguicula grandiflora*, *Erythronium Dens-canis*, *Meconopsis cambrica*, *Isopyrum thalictroides*, *Hepatica triloba*, *Gentiana acaulis*, *Erinus alpinus*, *Saxifraga oppositifolia*; in pastures below the Pyrenees, *Anemone coronaria*, and *Centaurea Cyanus*; near Arcachon, *Bartsia lanceolata*, *Erythraea pulchella*, *Anagallis tenella*; near Baritz, *Lithospermum prostratum*, *Narcissus Bulbocodium*; also a parasite on the Poplar, *Clandestina rectifolia*. Mr. Pease said he had been struck with the beauty of a field covered entirely with the flowers of the scarlet *Anemone*. The party gathered a few, and the owner asked for a gift, as he could not get rid of the *Anemone*, and no profitable crop would grow near it. An added interest was given to this part of the address by the exhibition of water-colour drawings of all the flowers named, beautifully painted from nature by a lady.

— ONE of the most useful ORCHARD HOUSES we have recently seen is in the gardens of Lord Ormathwaite at Warfield Park. The structure is a lean-to, 140 feet long and nearly 18 feet wide—light, lofty, and well ventilated. It is in divisions, and is mainly devoted to the cultivation of Peaches, Nectarines, and Plums. The mode of training adopted, although not new, is commendable. Instead of a continuous trellis of the usual kind arranged from the front of the house to the back pathway, a series of upright trellises are formed at 7 or 8 feet intervals from the ground to the glass crosswise of the border of the house. By this arrangement an equal or greater extent of trellis is provided than by the mode usually

adopted, and, as is obvious, the trees on the back wall are not shaded, and the wall is thus furnished to the base. The border between the upright cross trellises is occupied by low bush trees in pots—the trees, being started in early vineries, are brought into the orchard house to mature their crops; by this means a long and abundant supply of fruit is provided. All the trees are in admirable bearing condition, and reflect much credit on Mr. Brodie, Lord Ormathwaite's competent gardener.

— IN the above-mentioned park, which is richly wooded, a permanent mode of indicating the AGE of many TREES is apparent. At a short distance from the stems dressed stones more than a foot square are firmly inserted, and on these the names of the planters of the trees and dates are deeply cut. There substantial tablets tell that Wellingtonias 35 feet high, and in robust health and splendidly furnished, were planted in 1860. The Spanish Chestnut trees in the park are grand specimens, and here and there are venerable Oaks that command attention. On the lawn an *Araucaria cones* freely, and near it *Yucca gloriosa* has become a tree, the stems being nearly a foot in diameter: as bearing eight fine spikes of flowers this venerable specimen had a fine effect. In the flower garden a large bed of the old Monthly China Rose is still covered with flowers: indeed we were informed that the bed contained flowers almost all the year round; but fine trees constitute the chief feature of the old place, and they are evidently cherished by Lord Ormathwaite and his family.

— THE great increase both in the number and the quality of the entries in the POTATO CLASSES at BIRMINGHAM was very marked. Mr. Peter McKinlay, of Woodbine House, Beckenham, carried off the first honours in this department. In class 16 he was awarded the first prize of £5, and also Messrs. Suttons' cup, value five guineas, for the best twelve distinct varieties. Those shown by Mr. McKinlay were Snowflake, Trophy, Extra Early Vermont, Early King, Suttons' Woodstock Kidney, Grampian, Emperor, Schoolmaster, Rector of Woodstock, Blanchard, Triumph, and Breadfruit. One dish in the exhibit—Suttons' Woodstock Kidney, won the extra prize of a silver medal for the best dish of Potatoes in the show. In class 17—for eight varieties, four of them to be American—there was a severe competition between Mr. James Pink of Faversham and Messrs. G. & J. Perry; but the first prize, a silver cup, value five guineas, given by Messrs. James Carter & Co., was awarded to the former for a very well-grown collection, comprising Snowflake, Carter's Breadfruit, Excelsior, Early Rose, Brownell's Beauty, Schoolmaster, Improved Magnum Bonum, and Model.

— MR. BOYES informs us of a striking case of DICHROISM that has occurred on a Rose in his garden. Last summer he had a shoot of the White Bath Rose on which were two white flowers, two pink, and two half white and half pink. On another flower stalk were two flowers half white and half pink, one pink one, and one pure white. We have known the same Rose produce a solitary pink flower occasionally, but we do not remember hearing of a plant so sportive as the one above mentioned.

— MESSRS. RICHARDSON & BEST, Paternoster Row, London, are issuing a new edition of a child's presentation book entitled "FACTS ABOUT FLOWERS." Mixed with the facts is much wholesome sentiment; and instruction is given on collateral subjects as they occur throughout the volume. The book is written in the form of a dialogue between father and child, and the ideas are appropriately clothed in simple language easy of being understood by very young children. The volume contains a coloured frontispiece forming a border round the name of the child to whom the book is presented. It is a pretty gift book, suitable for being placed in the hands of any child in whose mind it is desired to incite a love for flowers.

— ONE of the most useful of ornamental-foliaged plants for hall and corridor decoration is *ASPIDISTRA LURIDA VARIEGATA*. Its bright green persistent foliage beautifully striped with creamy white resists the effects of cold, dust, and a dry atmosphere better than does that of almost any other variegated plant. Although the plant is nearly hardy, it is highly worthy of greenhouse treatment, and of a little extra heat and care when producing fresh foliage. It is grown extensively and well on the Continent both in a large and small state, and is found to continue healthy in rooms and corridors for months together.

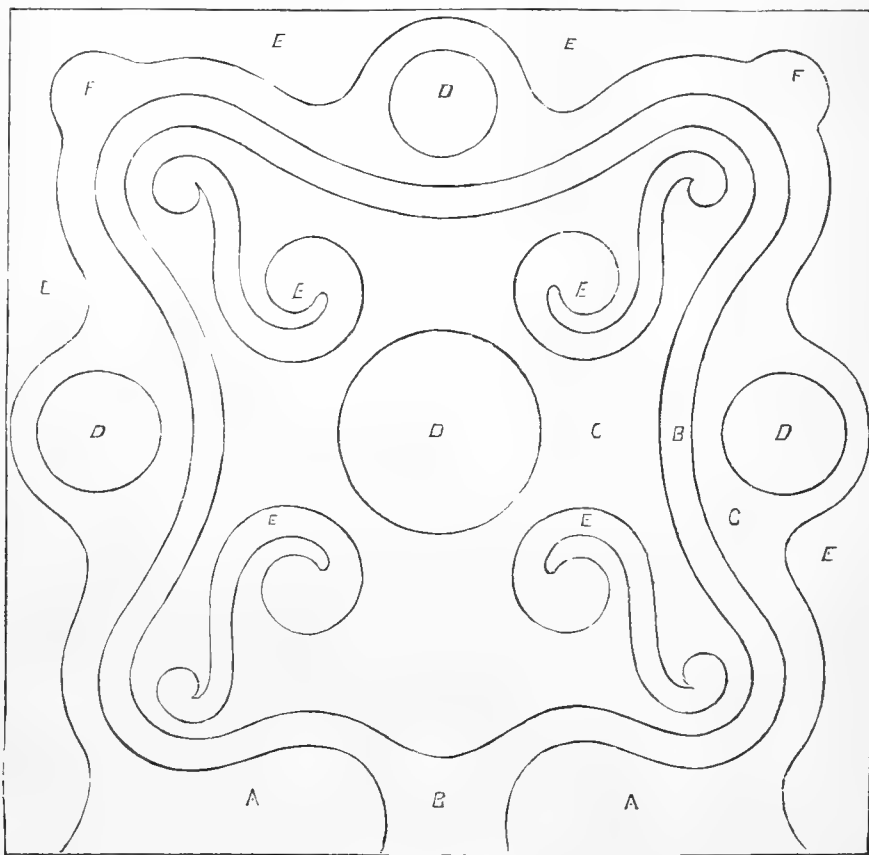
— WE find in the *Gardener's Magazine* the results of a trial of 116 varieties of POTATOES grown at Stoke Newington by Mr. Shirley Hibberd. The majority of the sorts produced poor or much diseased crops, which were nearly worthless:

indeed the list on the whole is a melancholy one. A few of the varieties produced what is termed "paying crops," and the following are selected as the best varieties arranged as nearly as possible (all points considered) in the order of relative merit. 1, Covent Garden Perfection; 2, Magnum Bonum; 3, Clarke's Cranemoor (late white); 4, Sextus; 5, McKinlay's Pride; 6, Suttons' King; 7, Snowflake; 8, Peach-blow; 9, Schoolmaster; 10, Woodstock Kidney; 11, Clarke's Late Prolific; 12, Early Ashleaf; 13, Early Hammersmith; 14, Brownell's Seedling; 15, Early Oxford; 16, Suttons' Queen; 17, Model; 18, Scotch Regent; 19, King of the Earlies; 20, Redskin Flourball; 21, Paterson's Victoria; 22, Early Rose; 23, Champion of England.

A ROSE GARDEN.

"A BLAZE of colour for a few days, a feast of Roses, and then all was over till the autumn." So said "WYLD SAVAGE" a

short time ago when telling us of the display of Roses in his garden this year. Extend the days to weeks if you will, but at best it may fairly be asked, Are Rose gardens really ornamental except during the brief period of flowering? I trow not. Many a Rose garden have I seen, but hardly any—certainly not more than one or two, that at all approached my ideal of what such a garden should be. It may be useful to describe two extreme examples; the first, a simple design consisting of a central circular bed some 10 feet in diameter surrounded by four of those oblongs and four circles, with which we are now so familiar, with a similar outer ring of longer oblongs and circles, forming altogether a group of seventeen small beds laid out on turf, of which there was a wide margin outside with an irregular semicircle of Rhododendrons, shutting in the group in a cosy nook in a somewhat secluded spot upon which one came unexpectedly round a curve of a shrubbery walk from among tree and shrub groups. The effect was charming—not from any novelty of design, for



Scale 20 feet to the inch.

Fig. 65.

A, Vine borders or turf.
B, Paths.
C, Turf.

D, Shrub beds.
E, Roses.
F, F, Recess for seats.

The walls to be clothed with Tea
Roses mingled with a few choice
evergreen climbers.

everybody is familiar with that who has read Loudon's "Encyclopædia of Gardening"—but from the well-chosen situation in such admirable harmony with the soft outlines of the beds, and the relief and warmth which the turf and shrubs imparted. The second is a rectangular space quite a dozen times the size of the first, laid out in a series of large square beds and long borders with intersecting paths, a trellis of poles around the outside for climbing Roses, and the whole shut in by lofty trees. Everything about it was stiff, formal, and uncompromising. In point of fact it was a mere large plot devoted solely to the production of large flowers for exhibition.

Now there can be no reason why all Rose gardens should not be made as attractive as our first example, and this can only be effected by mingling Rose beds with others containing shrubs, or placing them near groups of shrubs and trees, which thus act as a foil to the flowers and lend warmth to the scene

throughout the year. That Rose beds should contain nothing but Roses all will agree who are aware what a gross feeder the Rose is, and how requisite high culture and abundant supplies of manure are to keep it in vigorous health. Long and somewhat narrow beds or small circles are preferable, because they facilitate that close inspection of all the flowers which is so desirable, and which ladies are debarred from when they are planted in large deep masses.

Figs. 65 and 66 will serve to illustrate my teaching, and may prove useful to others as well as "A SUBSCRIBER," who "wants the plan of a Rose garden 30 yards square walled on three sides, the walls are to be covered with Ivy, a gravel walk and viney on the other side;" our correspondent also wishing it to be laid out on grass, which wish I have ignored, for to render so large a space attractive without paths would be to exclude most people from walking about it except in very dry weather

Both plans are drawn to a scale of 20 feet to an inch, and the spaces A A in both are retained for Vine borders, but if not required for that they may be turfed over and dotted with a few shrubs, or just one or two specimens.—EDWARD LUCKHURST.

FLOWER BEDS IN WINTER.

SUMMER and also autumn flowers are now over, and fallen leaves have for the most part been removed from lawns and flower beds. Especially where evergreens do not predominate gardens have now a comparatively blank and desolate appearance. There is, however, no need to have empty cheerless beds during the dreary season. A combination of dwarf bright shrubs and spring flowers will add greatly to the cheerfulness of any garden in winter. Shrubs with bright variegated foliage that I have found valuable for the purpose indicated are Gold and Silver Hollies, Golden Yew, *Aucuba japonica maculata*, *A. japonica*

limbata, *Osmanthus ilicifolius aureus*, and var. *argenteo-variegatus*, *Eurya latifolia variegata*, Gold and Silver *Euonymuses*, *Vinca elegantissima*, and Gold and Silver Tree Ives; these with *Cryptomeria elegans*, *Thuja aurea*, *Cupressus Lawsoniana nana glauca*, admit of very effective beds being formed for winter display. Golden Thyme, *Stachys lanata*, *Pyrethrum* Golden Feather, *Ajuga reptans rubra*, are useful for lines and groundwork, with *Erica carnea* in tufts, to which may be added for edgings *Sedums corsicum*, *glaucum*, and *lividum*, *Sempervivums calcareum* and *montanum*, *Saxifraga granulata* and *hirta*, and the Blue Grass (*Festuca glauca*), all of which are very effective. In flowering plants I employ *Aubrietias*, *Arabises*, *Alyssums*, *Daisies*, *Forget-me-nots*, *Primroses*, *Gen-tians*, *Hepaticas*, *Iberises*, *Pansies*, and *Violas*, with such bulbs as *Snowdrops*, *Scillas*, *Anemones*, *Hyacinths*, *Tulips*, &c.; also plants raised from seed, as *Wallflowers*, *Silenes*, *Limnanthes*, *Nemophila*, *Collinsia verna*, *Saponarias*, &c., which in combi-

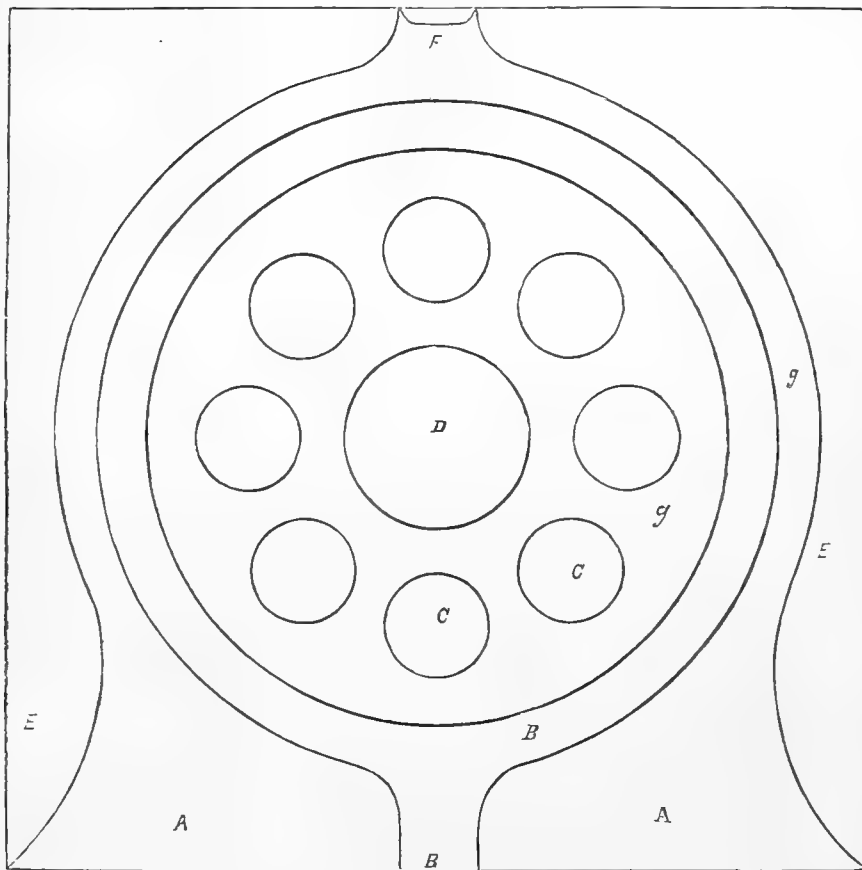


Fig. 66.

A, Vine borders or turf.
B, Path.
C, Eight Rose beds.

D, Bed of *Rhododendrons* and *Lilium auratum*.
E, Mixed border of pillar Roses and perennial flowers.
F, Seat.

nation with the foliage plants and miniature shrubs render the beds fresh and attractive through the winter and spring. Where Beet and variegated Kale are not objected to as partaking too much of the Cabbage garden, they afford a richness and delicacy of colouring that is unattainable by any other plant.

This subject has been previously alluded to. I refer to it now because the beds are now cleared, and there is yet time to plant, fine weather permitting, everything mentioned above. Until now work has been so pressing in many, if not most gardens, in clearing away decaying crops and leaves, that time has not been afforded for planting the beds.—A. G.

THE LIVERPOOL CHRYSANTHEMUM SHOW.

I HAVE taken in the *Journal of Horticulture* for a long time, and have been accustomed to rely on the information given; and shall be glad, therefore, if in your next number you will recon-

cile the account of the Liverpool Chrysanthemum Show given at page 405 with what appears in the *Gardeners' Chronicle*, page 696. In such competition I trust Wimbledon will always be "nowhere." Who were the Judges?—HENRY W. PEEK, *Wimbledon House, S.W.*

Both accounts are correct. The following explanatory letter sent by our Liverpool correspondent was not received in time for publication last week:—

"The first prize was originally awarded by the Judges (be it said to their shame!) to Mr. F. Roberts, Messrs. Tunnington, Peerse, and Elliott, following in the order named. Mr. Ollerhead subsequently entered a protest against the first award; and on the blooms being examined a disgraceful system of pinning and gumming two and three blooms together was exposed. Whereupon the Secretary said, 'Roberts shall be disqualified in everything, and that places Tunnington first, Peerse second, and Elliott third.' I cannot see how any good judge could award a prize to Roberts' stand. Mr. Tunnington's were grand blooms, and were honestly shown. Indeed he and Mr. Elliott offered their stands to be examined, in order to give Roberts no straws to cling to as well as to give

public satisfaction. The swindle was detected and first mentioned by Mr. Tunnington and Mr. Burgess, who would no doubt have entered a formal protest had not Mr. Ollerhead moved so promptly, properly, and effectively in the matter. The Judges for cut blooms were Mr. Dale of the Temple Gardens, London, and Mr. Wilson, Hampton Gardens, Hereford."

Another correspondent to whom we wrote relative to the discrepancy referred to by Sir Henry W. Peek, has replied as follows:—

"The report in the *Journal of Horticulture* is correct. Roberts was originally awarded the first prize, but was afterwards disqualified for the reasons correctly recorded in the *Gardeners' Chronicle* by Mr. Ollerhead. There is, however, one error in the letter referred to. Mr. Roberts was not first last year, but Mr. Tunnington; and Mr. Meerse was first in 1876 in the principal class for cut blooms. If the judging had been good Mr. Tunnington ought to have been placed first this year in the first instance, his stand being generally considered the finest that has been seen in Liverpool. Every gardening paper that reported the Show and all the local papers published the awards the same as appeared in the *Journal*."

[In reference to the disgraceful practice referred to we perfectly agree with Sir Henry Peek, that so long as a suspicion of dishonest exhibiting is allowed to exist at any show that all honest exhibitors will best consult their self respect by refraining from competing where prizes are won at the sacrifice of honour.—EDS.]

GARDEN FENCING.

I HAVE been putting up fencing for a gentleman round his kitchen garden, and as the fence has given the greatest satisfaction it might suit the requirements of Mr. Laxton. The material is corrugated galvanised sheeting, the kind used for roofing, sold here very cheaply by the manufacturers in short lengths termed "wasters." It was put up in the following manner: The posts (railway sleepers) are 6 feet long, 2 feet in the ground, 8 feet apart, the sheeting being 8 feet long and 2 wide, one sheet laid above the other, punched through and nailed to the posts with 3-inch clamp nails. The above fence forms a very neat, unusually warm, clean, cheap, and impenetrable screen. When required it can be easily moved, and a man with the help of a boy can put up 50 yards a day, the whole being very strong.—GEORGE G. BIRMINGHAM.

NOTES ON VILLA AND SUBURBAN GARDENING.

OWING to the absence of severe frost Oaks and some other trees have retained their foliage for a longer period than usual, and much extra work has been occasioned thereby in keeping gardens neat, and the final sweeping-up and the digging-in of the borders have had to be prolonged accordingly. We generally have all borders dug over by the last week in November; this season, from the above causes, the work cannot be completed nearly so soon. As soon as possible let all grass walks, &c., have a thorough sweeping and rolling; then proceed to regulate and dig the borders, carefully burying the leaves as the work proceeds. To those whose time has been occupied in lifting and transplanting trees, shrubs, or fruit bushes the open weather in the south has been most favourable, and it will be well if this work be hastened on, as the ground is liable to be frost-bound at any time now.

PITS AND FRAMES.—The occupants of these now require unremitting attention. Air must be given on all favourable opportunities, and decayed leaves must be removed promptly, for if left they will cause the tops of the plants to decay. Particularly is this the case with bedding Geraniums. It will not be safe to keep Cinerarias in cold frames any longer, although while the weather remains open they grow freely and are more free from green fly in frames than in heated structures, but the plants are very liable to injury by frost. Calceolarias are harder than Cinerarias, and sufficient covering may be placed on the pits to render the plants safe. If green fly should infest either of these plants or show or fancy Pelargoniums fumigate them with tobacco or tobacco paper, for if the insects are permitted to increase they will speedily ruin the plants. Tebb's fumigator is very useful for amateurs. The tobacco paper is ignited by lighting a few pieces of paper; the door of the fumigator regulates draught as required.

Pelargoniums that were cut back after blooming, and shaken out and potted, will now require another shift into the pots they are intended to bloom in. Useful home-decorative plants may be grown in 6-inch pots. The plants thrive best in good loam enriched with about one-fifth of well-decayed manure and a good sprinkling of silver sand. Drain freely, pot firmly, and water sparingly during the dark days. The plants must be kept near the glass, and tying and pegging down the shoots must be resorted to for forming dwarf bushy specimens; further, pinch out the points of the shoots when from 4 to 5 inches long.

Introduce bulbs such as Hyacinths, Tulips, Crocuses, Narcissuses, &c., that have been plunged out of doors for some weeks into gentle warmth, to forward them to supply the place of the Chrysanthemums in the conservatory. Camellias, Ericas, hyemalis, Wilmoreana, and gracilis, and Epacris of sorts, are all welcome occupants of our conservatories after the Chrysanthemums have ceased blooming, as also are Lily of the Valley, Callas, Rhododendrons and other forced shrubs. Do all watering that is required in the early morning, so that the atmosphere may be dry before night.

Vines that ripened their Grapes late should, if possible, be encouraged to cast their foliage by applying fire heat during the day and admitting plenty of air during the whole time; and rods already denuded of their foliage should be pruned and cleaned ready for starting after they have had a season of rest. In pruning the laterals should be cut off close to the lowest eye that has had a leaf to support it during the summer. The leading canes, if the Vines have not reached the top of the house, should be shortened according to their strength. If strong, about 4 feet of growth may be left; if weak, 2 feet will be sufficient. Young Vines that have grown very weakly are best cut down to the base of the rafter, which will ensure a stronger growth next year. Remove any loose outer bark, and paint the Vines with a mixture of soft soap, tobacco water, and sulphur for the destruction and prevention of insects. It is also a very good plan to scrub the woodwork of the vinery and trellis at the same time with soft soap and warm water; this is work that can be conveniently done during wet weather.

In the kitchen-garden department Cauliflower and Cabbage plants must be dusted with soot and lime as required to prevent their being eaten off by slugs. A few roots of Rhubarb and Seakale may be taken up, the first being placed under the stage in an intermediate temperature, or in a box placed in heat. Seakale must have all light excluded, but where no indoor warmth can be had both Rhubarb and Seakale are easily forced by placing pots over the crowns and covering them with leaves or leaves and long manure, taking care that the fermenting material does not become too hot. Trial sticks inserted will indicate the heat: the sticks when withdrawn should be only just warm.

WORK FOR THE WEEK.

KITCHEN GARDEN.

THE rapid fall of the leaf will admit of operations being pushed forward with alacrity now that the weather continues open. Where the soil is strong manure is best applied now, very strong soils being improved by ashes, charred refuse, and burned clay, leaf soil and other decayed vegetable matter of a loose nature being desirable applications. Light sandy soils and those that are thin and gravelly are better with the manure applied in late winter or early spring prior to planting or sowing, as if applied at this season the fertilising properties are considerably reduced by being carried downwards by rains below the action of the roots, the soil being of poor retentive power. Such soils are permanently improved by a dressing of clay or marl, spreading it on the surface in small lumps so as to be acted upon by frost, and when fallen dig or fork in. Twenty to sixty cartloads may be applied per acre according to the nature of the soil. Neatness being of some importance in private gardens it is requisite to clean the borders adjacent, so that leaves, &c., are not left to be blown over newly-dug ground. Complete the taking-up of late root crops, such as Parsnips and Jerusalem Artichokes, which are improved in quality by being stored in sand in a cool place; this prevents the unpleasant work of having to take up the roots in wet or frosty weather. A portion of Horseradish may also be taken up, trimming and sorting all fit for use, storing the roots in soil or in damp sand. Similar remarks apply to Rampions and winter Radishes—Black Spanish, China Rose, and Californian Mammoth; if kept dry the roots will shrivel. Root houses cannot be kept too cool, merely excluding frost. Potatoes intended for planting in the ensuing season should, so soon as space is available suitable for the purpose, be placed in single layers, kept cool, frost merely being excluded so as to prevent early growth, it being important that the first growths or sprouts be retained; this more particularly applies to the early kinds; but it is always desirable to preserve the first growths, and not to have them more than half to three-quarters of an inch long at planting time. Refuse from the garden or elsewhere should not be neglected, considering that it provides a valuable supply of rich fertilising matter at a trifling cost. With ordinary attention in turning the heap occasionally and adding some quicklime and a little salt, the former for the hastening of decomposition, both being destructive of garden pests, such refuse is rendered very useful. When thoroughly reduced the compost forms a capital dressing for root crops. It is also one of the best dressings for lawns and fruit trees generally, having a sixth part of lime added, which should now be done in the quick state, and left until February or early March, when the heap will be in fine condition for use.

FRUIT HOUSES.

Pines.—Well-ventilated pits or small houses properly heated are

the most suitable for young stock, which at this season often suffer irreparable injury from being kept too close and warm, the plants becoming drawn and weakly. At night 60° should not be exceeded, but a mean between that and 55° at night, which with 65° in the daytime, will keep all young stock gently moving, admitting a little air at the top of the house at 65°, leaving it on all day, but not to lower the temperature below that point, and when the sun raises the temperature to 75° a free circulation of air should be allowed. The bottom heat should be kept steady at 80°, avoiding anything approaching to a damp atmosphere; moderate humidity will suffice. Apply water only when the plants become dry, and then give weak liquid manure. Keep the plants well up to the glass, and allow them plenty of room. Suckers ready for starting now it is advisable to keep until March, and if there is likely to be a scarcity of suckers then any recently potted may be retained in 5-inch pots, affording them a light position in a moist pit, with a slight bottom heat and a temperature of 55° at night, keeping them rather dry at the roots. In the fruiting department 65° will be ample at night, 5° lower in the morning in cold weather, 70° to 75° by day. Take every opportunity of collecting leaves whilst dry, and whenever a favourable opportunity offers push forward whatever may be necessary in the renewing or augmenting the fermenting beds.

Vines.—The house or houses for affording ripe Grapes before the end of May must be started without delay, nothing contributing more to a good break than a bed of leaves and stable litter placed on the floor of the house, turning over a portion of it daily so as to afford a supply of ammonia to the atmosphere. The outside border should also have the needful protection from cold rains and snow, two-thirds of leaves to one of stable litter affording a less violent but more lasting heat than dung. Provided the outside borders were covered with bracken, straw, or litter in early autumn so as to throw off the wet, the temperature will be considerably warmer than that of borders exposed, and in their case covering with hot litter may be dispensed with, but a covering of warm litter is preferable, especially to those borders exclusively external. The inside borders should be brought into a thorough state of moisture by applying water, or in the case of weak Vines liquid manure at 90°. Start with a night temperature of 50° in severe weather, 55° in mild weather, and 65° by day, except the weather be severe, when 55° will suffice, not exceeding those figures until the growth commences. Maintain a moist atmosphere by syringing occasionally, but excessive moisture excites the emission of aerial roots from the rods. Depress the rods to the horizontal line or below, to ensure the regular breaking of the eyes. In the earliest house started last month the temperature will need to be increased to 60° at night in mild weather, 55° in severe weather after the eyes break, and gradually increasing so to have it 60° at night when the Vines are in leaf, 65° by day in severe weather, and 70° to 75° in mild weather with moderate ventilation. The evaporation troughs need not as yet be charged with liquid manure provided there is fermenting material within the house; but if not, 1 lb. of guano to twenty gallons of water is suitable for the purpose, and also watering Vines in pots, the water being applied at the temperature of the house. Tie up the Vines in position as soon as growth has fairly commenced, and before the shoots are so long as to be liable to be damaged in the process. Sprinkle the house two or three times a day in clear weather, avoiding a very muggy atmosphere on the one hand, and a dry one on the other. Disbudding should not be practised until the fruit shows in the joint of the shoots. Midseason houses are pruned and at rest; if not, complete the work and the cleaning of the houses, &c., without delay. Excepting the very late kinds, as Lady Downe's, Alicante, &c., which should not be cut until the new year, any houses that have the Grapes partially cut may have the remainder removed with a good portion of wood attached, and that inserted in bottles of water with a piece of charcoal in each will keep admirably in a dry room from which frost is excluded. This will liberate the houses for painting or pruning, there being nothing equal to a long and complete rest for Vines, which early pruning effects more than anything else.

Peaches and Nectarines.—When the buds in the house closed last month have commenced swelling maintain a temperature of 40° to 45° at night and 50° to 55° by day, admitting air moderately at the latter figure, allowing the temperature to rise to 65° from sun heat, syringing the trees and every available surface morning and afternoon until the bloom buds are showing colour, after which the syringing of the trees should be discontinued, but the sprinklings of the house, walls, and paths continued as before. There must be no attempt at a close atmosphere, but allow a chink of air at the top of the house to lessen the condensing of moisture by the glass. The inside border will require to be watered with water slightly warmer than the mean of the atmosphere, maintaining the soil in a thoroughly moist state. Borders entirely inside require careful watering, making sure that every part of the soil is properly moistened. Outside borders will be benefited by lights or shutters in addition to a covering of bracken or litter for throwing off heavy rains and snow. The house for affording ripe fruit at the end of May or early in June should be closed about this time, but no fire heat should be applied except to

exclude frost, and for an hour or two in the early part of the day if the weather be severe, not, however, exceeding 50° by fire heat, syringing the trees and every available surface morning and afternoon. A ridge of thoroughly sweetened leaves and stable manure placed in the house after the border is thoroughly moistened will afford a genial atmosphere superior to that obtained from hot-water pipes, admitting air whenever the weather permits of doing so, Peaches delighting in a well-sweetened atmosphere. Complete without delay the pruning of Peaches and Nectarines under glass, thoroughly cleaning the glass and woodwork, whitewashing the walls, and dressing the trees for the destruction of insects, and top-dressing the borders, keeping the house as cool as possible but ventilating abundantly in mild weather.

Figs.—The earliest house, or that with the trees in internal borders, should now be closed with a view to having ripe Figs in May; but where the earliest Figs are had from trees in pots, the starting of the trees planted in borders may be deferred until the new year so as to afford a succession, yet if the trees planted out be now started they will afford a closer succession to those now being forced in pots. Water in a tepid state should be applied to the roots at frequent intervals until the soil is thoroughly moistened, introducing thoroughly sweetened leaves and stable manure in ridge form into the house to produce a moist genial atmosphere and induce gentle excitement as well as to economise fire heat. Commence with a temperature of 50° at night, 55° by day, and 65° from sun heat, syringing the trees and every available surface in the morning, and early in the afternoon unless the weather be dull and cold, when the morning syringing only should be practised. Admit air moderately whenever the weather is mild, closing the house with sun heat at 65°, or if it exceed that with full ventilation close the ventilators when the sun heat begins to decline. The earliest forced trees in pots must not be over-excited by too much bottom heat, but as the fermenting material settles more should be added and pressed firm, being very careful not to allow the heat about the pots to exceed 65°. When the buds are swelling freely the temperature may be increased to 55° at night, 60° by day by artificial means, admitting a little air at that and allowing an advance to 70° or 75° by sun with corresponding ventilation, closing at 65°. Sprinkle the trees and house morning and afternoon, or in the morning only if the weather be dull. Young trees intended for forcing in pots another season should be shaken out and repotted, starting them into growth shortly or at once, so that they may make the necessary growth and complete it early so as to have time to rest before being forced for fruiting. Brown Turkey and White Marseilles are good for early work, Negro Largo is also excellent.

Cherry House.—The pruning of the trees in this structure must now be attended to. Full-grown trees regularly stopped during growth will require very little pruning. Any that have grown considerably should be cut back to an inch of the base of the current year's growth, and the worn-out or decayed spurs should be removed. The terminal shoots in the case of trees not full-sized must not be shortened unless the extremity of the trellis is reached, and the central shoot or shoots of young trees will require to be cut back as may be necessary to originate shoots for filling up the space regularly. The fan mode of training is the most suitable, and is more particularly applicable to the Cherry, as it admits of replacing any branch that may fall a prey to gumming. Plum trees succeed in the Cherry house either planted out or in pots and tubs, and like Cherries require to have the roots restricted; established trees in pots and from the orchard house, or in the case of trained trees from a wall, being selected, they should be pruned, seeking to maintain uniformity of appearance. All last year's growths will require shortening; superfluous shoots remove entirely, avoiding having the shoots of these or Cherries too thickly placed. A few dishes of Plums early in the season are a welcome addition to the dessert. Early kinds should be chosen, as July Green Gage, De Montfort, Denniston's Superb, Royale Hâtive, and Green Gage. Plums, like Cherries, like good loam, with about a sixth of road scrapings and a tenth of old mortar rubbish thoroughly incorporated. The house should have a thorough cleaning, the trees being washed with soapy water (8 ozs. to a gallon is not too strong), and then dressed with a composition formed of half a pound of soft soap to half a gallon of water, half a gallon of tobacco juice with four parts of flowers of sulphur, and one part each of slaked lime and soot added so as to bring it to the consistency of thin paint, applying with a brush, being careful not to dislocate the buds. The house must be thoroughly ventilated until the time arrives for starting the trees.

Strawberries in Pots.—The plants introduced or to be introduced shortly to the vinery, Peach, or other forcing houses should have the drainage scrutinised, making sure that it is free, and the loose surface soil removed, and a top-dressing given of dried cow dung or horse droppings rubbed fine with the hands, adding about a twelfth part of bone dust or buffalo horn manure well incorporated, then watering it with a rose watering pot so as to bring into a moist state, for if put on dry it washes off in watering the plants. The pots may then be placed in position after removing any decayed leaves, making sure that there is no deficiency of

water at the roots, for the old leaves will not show signs of a deficiency of water until the soil is very much too dry for healthy root-action, therefore rap the pots; a practised hand will readily detect by the sound which plants are needing water. Black Prince is still the best very early Strawberry, followed by Vicomtesse Hericart de Thury, La Grosse Sucrée, and Sir Harry, one of the very best of forcing Strawberries, and an admirable autumn fruiter, but the fruit does not bear carriage well.

PLANT HOUSES.

Stove.—Plants at rest of a deciduous character—such as Allamandas, Clerodendrons, Bougainvillea glabra, &c.—will only require but little water occasionally to keep the wood from shrivelling and in the case of evergreens enough water only should be given to keep the foliage from becoming limp. Such plants as flower at this season will require to have water according to their requirements, making the distinction, however, between a plant at rest and one in or advancing to the flowering stage. Centropogons, Aphelandras, Eranthemums, Plumbagos, Thyrsacanthus, Begonias, Centradenias, Euphorbia jacquiniæflora, Pentas, Poinsettias, Epiphyllums, Conocliniums, Dalechampsias, Mussandias, Burcheillas, Toxicophleas, &c., must have water as required, assisting plants in small pots with liquid manure. Those with other winter-flowering plants require to have a moderately moist atmosphere and light position, the flowers being poor comparatively when grown away from the light, and do not last near so long as those near to the glass. A gentle syringing in the morning and early afternoon will still be necessary in bright weather, being content with damping the floors, &c., in dull weather, maintaining a temperature of 60° at night, 5° less in the morning in severe weather, 65° by day from fire heat, or 5° less when the external air is cold and dull, with an advance from sun heat of 10° to 15° with moderate ventilation. Ixoras should have a temperature at least 5° more all round. Lose no opportunity of freeing plants of mealy bug and scale. The former is readily destroyed by paraffin, a wineglassful to four gallons of water thoroughly mixed by squirting alternately into the can and over the plants. It is also good against scale, yet not nearly so efficacious as against bug. Both the brown and white scale are destroyed by a wineglassful of spirits of turpentine and 8 ozs. of soft soap to half a gallon of water, applying with a brush, syringing well a few hours afterwards with pure water, the plants being laid on their sides. Thrips often thrive apace at this season; subdue them and aphids by fumigation. Caladiums should not be kept dust-dry; but with the pots placed upon a moist bottom and occasionally sprinkled the corms will keep sound. As a decorative plant none rivals *C. argyrites*, which grown in brisk moist heat is as useful at this season as any; *C. Belleyei* is also nearly as good. Both may be kept going with little or no rest. Both *Gloxinias* and *Achimenes* winter safely in a temperature of 45°, the soil being kept rather dry, but dust-dryness is pernicious. *Eucodonia*s should be kept in the stove moderately dry, *Tydas* and *Genaras* of the *Zebrina* and *Exoniensis* sections being kept moist and afforded plenty of light.

TO CORRESPONDENTS.

. All correspondences should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense. Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

WHITE GRAPE IN GREENHOUSE (*Birchdale*).—We are unable to recognise the name of your Grape by the description you have given, and shall be glad to receive a few berries by post. Your soil and position appear well suited for Grape-growing, and we are glad to hear of your success.

IRIS-LEAVED PLANT (*J. M. C., Brighton*).—It is quite impossible for us to determine the name of your "curious plant," either by your description or the rough sketch enclosed. We think you have done quite right in placing a handlight over the young plant to protect it from the inclemency of the winter. We advise you to prop the handlight up or otherwise admit air to the plant during all favourable weather.

GLOBE ARTICHOKE (*Mid Surrey*).—Although the plants are hardy you cannot err by placing some littery refuse round their stems, for we find that protected plants often produce heads earlier than do plants that have been left exposed.

WINTER ONIONS (*J. B. D.*).—We should not transplant them now, but thin them out slightly if overcrowded, further thinning them in early spring, and transplanting those then removed.

DIVIDING MAIDEN-HAIR FERN (*H. H.*).—Let the plant remain as it is until the spring and divide it about March, or when new fronds are commencing to push freely, and then you will have more heat to promote the speedy re-establishment of the plants.

PRUNING VINES (*A Young Gardener*).—As the leaves are all yellow and are falling freely, you need not hesitate pruning the Vines at once; indeed the sooner they are pruned the better if you start them in January.

TRAINING ESPALIER APPLE TREES (*F. J.*).—Your principal aim should be to have the lower branches in advance of those above them, shortening

the extremities accordingly, and pinching out the tips in summer of any shoots that are growing too luxuriantly. If any of the lower branches do not grow freely they should be trained in an oblique instead of a horizontal position for a year or two. It is advisable to cut off the unripe tips of the branches, or blossom buds may form there, and then the after-growth would not be free. A length of from 18 to 24 inches is not too great if the wood is mature. Take out the leader entirely when you have obtained the requisite number of branches. Your light soil cannot well be made too firm, but running the hoe carefully through the surface to the depth of an inch will not do any harm, and you need not change your present practice.

PRIMULAS NOT FLOWERING FREELY (*Ellen*).—Your greenhouse is fully too cold for them. They require a warmer temperature than *Calceolarias* and *Cinerarias*. The latter will keep healthy if just safe from frost, but *Primulas* require a temperature of 45° to 50° when showing their flower stems.

PLANTS FOR WINDOW SILLS (*Suburban*).—No plants are more ornamental for outside window sills during the winter than dwarf *Euonymuses*, *Retinosporas*, and variegated *Ivies*, with such berry-bearing shrubs as *Pernettyas*, *Skimmias*, and *Aucubas*.

GROS COLMAN GRAPE (*E. S., Berks*).—It is a noble Grape and good in quality when grown in a high temperature and ripened early. See notes on this Grape in another column.

FISH POND (*Gregory*).—Puddling with clay the bottom and sides is necessary in almost all instances. When the excavation is formed, or partially so, the bottom puddle near the outer edge is formed, and upon this is raised the upright or side puddle; and as this proceeds the ordinary clay or earth is raised at the same time, by which means the upright puddle is retained in its place; and ultimately the sides, being formed in a sloping direction, admit of being covered with gravel or sand, and may be walked upon, or stakes may be driven to a considerable depth without reaching the puddle or in any way injuring it. This can never be the case if the puddle, as is sometimes done, be laid upon the sloping side of the pond. The sides may slope rapidly, or the reverse. If the slope be considerable, sand or gravel, to give a clean appearance, will be more likely to be retained upon the facing; plants can be more easily fixed and cultivated; gold fish, also, find in these shallow gravelly parts under the leaves of the plants suitable places to deposit their spawn, and without this they are seldom found to breed.

BRIAR STOCKS (*W. Tipton, E. Thody, and Others*).—You can adopt no better course than to advertise them, as good stocks are scarce in many localities.

NEW ROSES (*F. R. M. R., Kilkenny*).—The following varieties of recent introduction are worthy of being added to your collection:—*Boisidien*, cherry red; *Dr. Hogg*, claret; *Lord Beaconsfield*, rosy crimson; *Dean of Windsor*, vermilion; *Emily Laxton*, cherry rose; *Hero of Waltham*, purplish crimson; *John Bright*, vivid crimson; *Marchioness of Exeter*, rich rose; *Marquis of Salisbury*, reddish crimson; *May Quennell*, magenta carmine; *Mrs. Laxton*, rosy crimson; *Penelope Mayo*, carmine; *Richard Laxton*, reddish crimson; *Rose Morn*, rosy salmon; *Waltham Cross*, deep rose; *Comtesse de Serenye*, satiny rose; *Duchesse de Vallombrosa*, satiny rose; *Duke of Connaught*, velvety crimson; *Magna Charta*, rosy crimson; *Queen of Bedders*, crimson; *Marquise Adèle de Murinais*, rose; *Marie Louise Pernet*, bright rose; *Mons. Gabriel Tournier*, deep rose; *Madame Sophie Froppet*, bright rose. *Teas*—*Comtesse Riza du Park*, coppery rose; *Souvenir de Georges Sand*, salmon rose; and *Mrs. Opie*, rosy salmon. The fine new Hybrid Perpetual Rose *Comtesse of Rosbery*, reddish salmon, and *Duchess of Bedford*, velvety crimson (*W. Paul & Son*); and *Dr. Sewell*, maroon crimson; and *Harrison Weir*, crimson scarlet (*Turner*), will be obtainable early in 1879. They are varieties of undoubted merit.

SEEDS FOR CYPRUS (*Rev. M. H.*).—Any that are suitable for the climate of England are worth trying in the island of Cyprus.

MICE EATING BULBS (*R. T.*).—Wet the bulbs and then roll them in red lead.

PLANTING SHALLOTS (*Amateur*).—Plant the offsets at once if the soil lies dry. If planted in beds, let them be 3½ feet wide, and 3 or 4 inches higher than the alleys, and the surface of the bed a little arched. Set out the rows 9 inches apart from row to row; spread a mixture of soot and charred refuse along the line about to be planted, and then plant the offsets singly with the hand upon the surface of the bed 6 inches apart in the rows just pressing each bulb down firm in the soil. See occasionally that they are not cast out of their places by worms or other vermin.

PRUNING VINES (*L. S., Liverpool*).—Pruning on the spur system consists in carrying up one leading shoot to the back of the house, establishing thereon what are termed spurs, or what might, perhaps, be more properly termed snags, from the front to the back, as nearly as possible, at measured distances, and as far as may be placed alternately up the stem. About one to every foot is sufficient; perhaps better than more. These spurs are first developed as side shoots; and in order to insure their due and full development they are produced during about three seasons. There are those who will run a cane up to the back of the house, and fruit it the whole length the next year; but this is not substantial practice. A good cane nearly the length of the roof, and about three-quarters of an inch diameter, may be pruned to one-third the after length the first year, another third the second, and the remainder the third year. By this plan, supposing the after 15 feet long, there will be about five large bunches the first year, ten the second, and fifteen or more the third; and this will be found to tax the powers of the Vine heavily, perhaps too much. By this mode every side shoot will be strongly developed, and consequently a selection may be readily made. The subsequent pruning simply consists in cutting each of these back annually to the last eye at the base of the young side shoot, although some leave another eye.

PLANTING HYACINTHS (*Lady B.*).—Plant the bulbs immediately the soil is dry enough to be worked freely. To prevent treading upon the bed lay upon it a narrow piece of board long enough to reach across it, or have the board strong enough to bear the planter's weight, and raise it up at each end high enough to clear the bed; plant them with a dibber thick enough to make a hole as wide as the largest Hyacinth is in diameter, and the end that is thrust into the soil should be cut across, and a mark made just as far from the bottom as the bulbs should be covered with soil; the proper depth is 3 inches from the top of the bulb. Each Hyacinth should have at least 5 inches square of surface to grow in, but 6 inches would not be too much space for the leaves to expand, especially if the same bulbs are to be planted

again the following season. As the planting proceeds have some light compost ready, sifted through a coarse sieve, and fill up the holes with it. When so covered the bulbs are sure to be at the right depth; then rake the bed very lightly.

ADDRESS (B. Roberts).—We are unable to furnish you with any address such as you require. If you have a boy whom you wish to be a gardener, your first step should be to obtain employment for him in a garden in your district. A small garden is as good as a large one for the first year or two.

CUCUMBERS UNHEALTHY (Constant Subscriber).—As you appear to have given careful and good attention to the plants we can only account for the rusting of the foliage by the possible overheating of the pipes. A deficiency of piping is the source of many failures of plants and crops in houses where a high temperature has to be maintained, and is also expensive by the great consumption of fuel that is inevitable under such circumstances. Even if the pipes in your case have not been overheated, we should gradually reduce the temperature of the house about 5°—i.e., having 65° instead of 70° as the minimum.

POMPON CHRYSANTHEMUMS (X. X. X.).—Out of so many good varieties it is not easy to select "the best yellow, best white, best rose or lilac, and best red for affording a large supply of cut flowers," but the following are good: yellow—St. Michael, or Golden Circle; white—Mlle. Marthe; rose or lilac—Lilac Cedo Nulli, or Durand; red—Bob, or Maroon Model.

CYCLAMENS NOT FLOWERING (J. Walsh).—The temperature—40° to 45°—is too low. For the plants to grow and flower freely they require a temperature of not less than 50°, and preferably 55°. One of the most healthy and fine collections we have seen this year is in Messrs. Sutton & Sons' nursery at Reading. The plants are kept near the glass in a temperature seldom below 60°, and are copiously watered. They are splendid, some of them being 18 inches in diameter, and laden with fine flowers, and yet the plants were only raised from seed sown in September of last year.

ZONAL PELARGONIUMS (J. D. Oron).—Vesuvius and its white and salmon sports are all excellent for winter flowering. You will find cultural notes in another column.

CUCUMBERS UNHEALTHY (Gardener).—The soil is much too light and too fine to promote strong healthy growth. Obtain some very rough, rich, turfy soil, warm it, remove carefully as much of the present soil as you can without injuring the roots, and you will have stronger roots, better growth, and no maggots and insects such as infest the present compost.

RENOVATION OF EXHAUSTED VINES (T. Byrne).—Cut out the old rods, shorten the young canes half way, or rather in proportion to strength. Take only a moderate crop of fruit next year, and if you have not already done so, lose no time in applying a heavy surfacing of rich farmyard manure to the border. Allow plenty of freedom to the young growth, and see that it is not overcrowded and is kept clean and healthy.

SURFACE-DRESSING A VINE BORDER (T. C.).—If the border is of an average depth of 2 feet, the excellent compost you describe would do most good if added along the front of the border by way of making it wider, placing upon the surface a heavy dressing of rich manure, and repeat the dressing annually. You are quite right to encourage a free strong growth in the vines, and should regard pinching as a necessary evil, only to be put in practice to keep the growth within bounds so as to avoid overcrowding.

CAMELLIA BUDS DROPPING (J. G. S.).—Plants looking exceedingly healthy and with the pots thoroughly drained may shed the flower buds from one or two causes, and these are repeated saturation of the soil by heavy rain if the plants are placed out of doors in summer causing many of the roots to die, and a want of water after the setting of the buds. Turn a few plants carefully out of the pots, and if you find plenty of healthy roots depend upon it the centres of the balls are or have been so dry that an ordinary watering would do no good. Take, therefore, each plant and immerse it in a tub of water, and if air bubbles rise abundantly and for some time, then no doubt drought in the centre of the ball is the source of the mischief, and each plant should remain in the water till the bubbles cease rising.

LARGE DESSERT GOOSEBERRIES (A. B. C.).—Red: Companion and Speedwell. White: King of Trumps and Patience. Green: Green Overall and Lofty. Yellow: Leader and Goldfinder.

GLADIOLUSES IN POTS (Idem).—For soil mix equal quantities of loam and old manure, and about half the quantity of leaf soil, and the same of silver sand. Employ 7-inch pots drained thoroughly. Divide the bulbs into three lots, potting the first at Christmas, the second in February, and the third in March, in order to secure a succession of bloom. Plunge the pots in ashes in a frame, and when the growth appears place them on a shelf in a light airy position in a greenhouse. Attend carefully to watering, and give liquid manure regularly when growth is active. Remove them to a cold pit in April, giving air freely on all warm days.

NAMES OF PLANTS (A. C.).—2, *Lithospermum fruticosum*; 3, *Ruscus Hypoglossum*; 4, *Andromeda salicifolia*; 5, *Toumouchea shrivelled* for identification; 6, *Escallonia montevidense*. (W. Jones).—1, *Euonymus japonicus aureo-variegatus*; 2, *E. latifolius variegatus*; 3, *Phillyrea latifolia*; 4 is an *Ilex*, and 5 an *Acanthus*, but we cannot determine the species from the scraps sent. (*Chrysanthemum*).—It is *Beauté du Nord*, described in Mr. Turner's catalogue in 1858 as a large reflexed flower, and before a separate section was formed for Japanese varieties. Well-grown flowers would now be exhibited in the Japanese class, but medium blooms could not be excluded from a stand of reflexed flowers. It is of the same form as *Triomphe du Nord*, but darker in colour.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

SHEEP FOR THE HOME FARM.

(Continued from page 415.)

THE merits of the Southdown sheep must be next considered, for they may not only be kept for the purpose of furnishing mutton of good quality for use at the mansion, but for profit in

connection with the stock of the home farm as well. In all moderate-sized farms they will have to be purchased instead of being reared, as mutton of full age (that is from four-year-old sheep) is most esteemed by the epicure, and sheep are usually killed and sold at two years old. Particular management is necessary to produce mutton of full age, otherwise the joints will be found to be rather too heavy for ordinary family consumption. Now to hold sheep on from lambs for three years will necessitate their being kept in the poorest of the park or pastures, so as to keep them healthy yet in only stock condition. They will not need anything beyond the produce of the grass land in summer and hay in the winter. When kept in this way they will grow slowly and be of moderate weight. The flock may be drawn from say a score at a time and put on to good food on the arable land, or in winter to be fed in the house or shed, as under cover they are found to thrive faster and make more meat for the food consumed than when fed in the open fields, eating one-fifth less food and making one-third more mutton during the period of feeding.

House feeding need only be resorted to in the event of the sheep being required for use within a given time. The Southdowns being fast feeders will generally become sufficiently fat after twelve weeks' feeding for home consumption. When, however, they are required to be fed and fattened in the summer months they should be taken out of the park pasture and placed upon the arable land, receiving green food, the earliest being rye, to be folded off or cut up and put in cages if it is a full crop, and at the same time having mangolds cut and mixed with about a quarter of a pound of linseed cake, and the same quantity of bean or barley meal, for each sheep. After the rye is all used then the trifolium will be ready to be treated and managed the same as the rye, mangolds and meal being continued. The clover or vetches will then be ready, after vetches the second crop of clover, and thus continue the same mode of feeding until the root crops are ready, all of which should be cut and mixed with cake and meal, early turnips first, or cabbages, whichever may be fit at the earliest period. The Thousand-headed cabbages come in early when early planted. After these succeed white Belgian carrots, and then Swedes, which will last until the rye is again ready, the mangold crop being reserved for the feeding of cattle, and used in conjunction with green fodder crops as before stated. This will complete the rotation of feeding and fattening for the year, except that we have omitted to state hay will be necessary whilst the animals are being fed upon roots in the winter months, the quantity to be as much as they will eat without waste. We must not forget to have a lump of rock salt so placed that the animals can have access to it at all times. In order to keep up a constant supply of sheep fit to kill, it will be necessary to add ten sheep at a time to the fattening lot draughted from the stock or poor sheep, so that the number of fattening sheep should not be less than twenty or any other number which the requirements of the establishment may necessitate to insure a regular supply. In this way any breed of sheep of light weights adapted to the neighbourhood in which the home farm may be situated can be fed, so as to supply the highest quality of mutton.

Another mode by which old mutton can be obtained is by purchase of full-mouthed ewes of the Southdown breed. These of the smallest size can be obtained in stock condition at the Lewes summer fair, as well as some other fairs in Sussex, where these ewes are sold as off-going stock from the chalk hills of the county. They are usually purchased to breed from by the farmers on the vale farms, and as these ewes are poor when they are purchased they may be put into the park or pastures, and gradually improved in condition, without cake or corn until Michaelmas. They may then be put to root-feeding, and be treated as before stated for fattening the same as the wether sheep, and they will furnish mutton of full flavour at either four or five years of age as required, the difference only being that the meat will be rather drier and without the quality in some other respects of wether mutton of full age.

We have now arrived at that point when the second heading of our subject must be considered—viz., the feeding of sheep for profit. As we have types and breeds of sheep adapted for all districts of the kingdom we must endeavour to keep only those sorts which have been tried and proved by the most experienced farmers of the districts where the home farm may be situated. This is really one of the leading points to be considered.

The management of Southdowns having been explained we will next take the Hampshire downs as obtained from the fairs in Hants and Wilts. Wether sheep may be bought in either large or small numbers at all the summer fairs in these counties; but it is questionable whether wether lambs kept in the same way will not be more profitable feeding for the butchers than wether sheep, because we have not only the benefit of feeding them up to fatness but at the same time we get their increased growth with also the increase of wool, so that lambs purchased at about six or eight months old of this Hampshire stock and kept on have been known to make an increased value per head of from 20s. to 30s. for four or five months' feeding. These young sheep taken into any dry sandy or gravelly land or hazel loam soil will, under ordinary circumstances of good food and good shepherding, be sure to yield a good return. As soon as they arrive at the home farm they should be put upon the best grass upon the farm, and particularly the young clover seeds, if they are purchased before the early turnips are fit to feed; and if early turnips are fit when they arrive it is a good plan for the sheep to run the clovers at daytime and then go into a folding of turnips in the evening for the night, and there to receive their artificial food in conjunction and in admixture with the cut turnips in troughs, all the artificial food being given in the meal state, whether it consists of decorticated cotton cake, bean, or barley meal, all three of these kinds of food being better than linseed cake for young growing sheep. They may at first receive about half a pound per day each, but afterwards, about six weeks before the appointed time for selling, they may receive with advantage 1 lb. per day each. They will not require hay until they have finished feeding on grass and are entirely confined to the close fold on turnips. Many farmers argue that common turnips are so soft and easily eaten by the sheep that they do not answer or pay for being cut and put in troughs; but we contend that young stock just before or about the time they are shelling their teeth will do much better with cut turnips in troughs, because they eat their food in little time, have more time to take rest, and they make more profit in consequence, and it is but little trouble to clean or cut common turnips.

(To be continued.)

WORK ON THE HOME FARM.

Horse Labour.—Upon some farms there will still be wheat-sowing going on, because where the practice is to sow wheat after turnips fed off, or mangold cleared away, there may still be land to be seeded. Now the season is so far advanced every opportunity must be taken and seed sown of a sort adapted for late sowing. We know nothing more hardy and more suitable for late sowing than the Red Nursery and Golden Drop, and it is no bad plan to mix them, both being good millers' grain, and ripen about the same time. The Nursery is a white chaff, and Golden Drop red chaff. A bushel and a half of Golden Drop and one bushel of Nursery per acre is a suitable mixture, because the Nursery is rather a smaller grain, and the plant will tiller out more in the spring. At this time of year never plough without sowing the same day; we are then sure of a seed time, let the weather be ever so changeable. Having had a good spell of dry weather lately, land which has been under culture in the autumn has still been tilled with advantage during the past fortnight, except in those counties where a fall of snow has impeded the work. In all cases where the couch and weeds have been cleared off the land may now be ploughed, whether it is intended for potatoes in the spring or for mangolds, and if the weather continues dry enough fresh horse dung may be laid out and ploughed-in for either crop. We do not advocate applying manure in the spring for either crop, and if there is no season in autumn for manuring we prefer artificial fertilisers, particularly Peruvian guano, 4 cwt. of guano for potatoes and 3 cwt. for mangolds is sufficient to produce a full crop of either. Fallowing the land by deep ploughing may be continued for all root crops next season, but we should be careful to have the water furrows struck and made out upon all flat and retentive soil. The odd horse or horses will be engaged in carting away couch and weeds from the fallows before ploughing for the winter. The couch and weeds should be carried to a heap, there to decay, except there is any meadow land near; the rubbish may then be carted on to the grass land and spread, for we have often seen this improve pasture land as much as a dressing of farmyard dung. The odd horse will still be required in carting Swedes or turnips to the homestead for the cattle, also for horses and pigs. The feeding of the fatting oxen should now be carefully attended to, for where they have been recently put up to fatten they will now begin to make visible progress, but it must be borne in mind that feeding twice a day with 30 lbs. of roots at each feeding with

meal in admixture with the cut roots is sufficient. Some persons still persist in the old-fashioned plan of giving roots three or four times a day, but we find that twice feeding with roots and meal is best, because it gives time for the animals to lie down and ruminate, besides which they will eat between the intervals of root-feeding a good quantity of sweet straw of any sort, oat straw being the best; pea haulm too is good for them, but they do not like the haulm of blue peas. By this system of feeding the bullocks will be sure to digest their food and return to the manger with a good appetite, and it is in this way that they best assimilate the food given, 4 lbs. of cake and 2 lbs. of meal per day being sufficient—that is to say, if more is given they do not profit by it to the same extent, and much of the extra quantity will only go to swell the dung heap. We must again mention that hay should never be given to a bullock when otherwise liberally fed, as it is sure to injure its health, particularly after it becomes about half fat. Let the fatting cattle be kept in boxes if possible about 10 feet by 10 feet. We have never seen better boxes than those temporarily fitted up in a barn divided by three fir poles, and the manure accumulating under the cattle with earth at the bottom of the boxes for absorbing the urine. Where this is not done and cattle are tethered at the stall, the manure being cast out daily into the yard, much waste occurs, unless it is arranged that the dung from the cart-horse stables should be mixed with it daily, in which case it is a good plan to feed the breeding sows in a hovel adjoining, and let them run out all day upon the dung and have a few Swedes or other roots cast to them, for when they are properly confined to the dung heap they tread it down and improve the mass, being kept within bounds by some strong iron hurdles. We have adopted this plan often with great advantage.

BIRMINGHAM POULTRY SHOW.

THE thirtieth Birmingham Show opened on Tuesday. To those of us who have been used to see it through the latter dozen years of its existence in its present highly organised state, it is difficult to realise out of what it has grown. Miss Watts in her poultry book graphically tells the tale of the first Birmingham Show, how exhibitors brought just what birds seemed good to them, and how they were judged and exhibited in the baskets in which they came. That took place not thirty years ago. Mr. Baily was the Judge, and Mr. Baily was busied on Saturday last still making the awards in many of the most important classes. On the whole the progress of poultry during the interval must have been vast, yet that of particular breeds fitful. Some of those which during the first half of the Show's existence made the greatest improvement have since become stationary or have gone back, while others which were almost or quite unknown fifteen years ago are now in the height of perfection and popularity. We should be well content to have a few Cochins or Dorkings from the first Birmingham Show we saw some twelve or thirteen years ago, but the Brahmas and French fowls which won then would make but a sorry figure now.

The feature for which this Birmingham Show is remarkable is the first appearance of the electric light in Bingley Hall and in the poultry annex. Year by year the dissatisfaction at the fetid atmosphere of the poultry department, and more so of the Pigeon gallery, increased. Exhibitors grumbled, and a few were sufficiently merciful to their Pigeons or sufficiently public spirited not to enter, in the hopes of things being improved thereby. Certainly this year there must be many "abstentions" when one finds such popular varieties of Pigeons as Turbits represented altogether by twenty birds, and some of the Dragon classes with two or three entries, in which we were wont to see scores. However, many of the grumblers wait till next year and forget their grievances the day before the entries close. For the future we hope there will be no need for abstention or grumbling. While we write these lines we have not seen the full play of the magnetic light, but there is every reason to hope that the gas may be dispensed with, and that the atmosphere will be no worse than that of any ordinary public building. The poultry and Pigeon arrangements are in the main the same as of late years. The Bantams and some other small breeds have been removed from the gallery to Bingley Hall, and look all the better there. The Turkeys and Waterfowl are also, as of late years, in the Hall. The old wooden pens do not improve; their front bars in many cases are most dilapidated, and it will be a wonder if no birds escape. Many of the drinking vessels too cannot be hung up, the miserable birds upset them and live in pools of filth. We were promised on Saturday that some chaff should be put on the bare boards of the pens when the judging was over. This will improve their appearance and make the birds more comfortable.

Brahmas have for some years displaced the old English Dorking and now head the list. Dark cocks were a good class, but we think the Judge was mistaken in one or two cases. Cup went to a large, well-made hocked bird, but we think the third-prize was better in most points; he failed a little in marking on saddle, but was otherwise very good. Second we did not like, and should have put fourth in his place. Either of the very highly commended pens might have been fourth. The hens must have been

very difficult to judge, as the light was extremely bad, many of the pens being so dark the marking on the bird could hardly be distinguished. The cup hen was rather small and short of feather, but was good in colour, being much less brown than most of the others, and to that she probably owed her position; second was a hocked bird, good in shape and marking, but had a poor comb; third and fourth were both large birds, but rather brown. There were a good many pens highly commended, but the light was so bad we were unable to criticise them properly. Cockerels were a poor class, much inferior to the past few years. The cup bird was about the best, but by no means as good as Mr. Lingwood generally shows, being very narrow and slightly ticked on breast. Second was nearly as good but rather loose in comb. Third we liked very well. He was a good bird well shown, but would have been better if he had had more leg feather. Fourth was rather leggy and narrow; fifth a good cockerel with bad wing. The highly commended pens were none of them very good, and several hardly worthy of their position. The cup pullet was a hocked one, beautifully marked all over down to her foot feathering. Second looked like the cup pullet at the Palace. She only wants good leg feather to be perfect. Third went to a hocked bird, very heavily marked. Fourth and fifth were both well marked birds, but the former failed rather on cushion. The first and second old Light Brahma cocks were both very good birds, the former having the best head and comb, but otherwise they were nearly equal. The third we did not like; he was hocked, bad in comb, and too dark in hackle. We liked 136 (highly commended) or the fourth-prize bird better. 150 and 157 were both well-known winners, and might have been higher. The cup went to a cockerel which had little but his head and neck to recommend him; the same exhibitor's fourth-prize bird was as good if not better. Second we thought the best in the class. He was rather short of leg feather but was otherwise a good bird. Third had a good hackle, if anything rather too dark, and was rather white in tail. Fifth was good but in poor condition. In hens the cup pen was occupied by the Palace winner, looking very well; second was a good bird rather light in hackle, and we did not like her comb; fourth was a fine hen, rather short of feather. 203 and 205 both good birds out of condition; the latter was the champion of last year. The pullet cup also went to the winner at the Palace, and Mr. Birch is to be congratulated on possessing two such good birds. Second was rather creamy, and not so good in hackle as first; third was good in hackle but a little ticked on cushion. We rather preferred fourth. Fifth went to another heavily-marked bird. This class was not as good as usual, many birds showing a creamy tinge.

Dorkings are by no means what they once were at Birmingham. If we are not mistaken, at the first show we attended here there were sixty-seven Grey Dorking cocks. We should say that the falling-off is chiefly in the Dark variety, which we suspect has first been spoilt by crosses, and has in its modern leggy form become less popular, for the collection of Silver-Greys and Whites struck us as being as good as we have ever seen at Birmingham. The two winning Dark cocks (two prizes only where there used to be five!), were birds of the same type belonging to the same owner. These were both bony birds, long on the leg, and of medium colour. The second-prize bird was singularly devoid of breast. The birds which struck us as being most of what we consider Dorking form were 366 (Mrs. Troughton) and 369 (Cresswell), both unnoticed. The cup and extra three-guinea prize went to the first Dark cockerel. He certainly was immense, but long on leg with spurs badly put on, and with a drooping comb. Second was a fair bird, with fifth toes a little enlarged. Third a dark lumpy bird. Fourth a nice bird all round, a little flimsy in comb. Among the best of the class we thought Mr. Crewe's highly commended cockerel, which was capital in comb and shape, and three of Mr. White's cockerels. The cup for Dark hen or pullet went to a capital bird of Mr. Burnell's, good in colour, feet, and condition. Second, a good bird with a beautiful gloss on her plumage. Third, a well-shaped rose-combed hen. The first and third pullets belonged to one exhibitor, the owner of the cup cockerel. They certainly are by no means the type of Dorking we admire, being lanky and long-legged; however, if they fill out well they will make good hens. Second was in body a remarkable pullet, but was much spoilt by one of her feet being flat and narrow. The Silver-Grey classes were good all round, and far superior in shape to the Dark. The cup went to the Palace cup cock. His hackle has now grown, and he looked very well. He is, we believe, from a family which have for several generations won both the great cups—viz., at the Palace and Birmingham, and are remarkable for splendid combs. Second was a very silvery bird, but poor in comb. We liked Mr. Burnell's quite as well. The awards in cockerels struck us as peculiar. First is a good bird in shape, comb, and tail, but very yellow and with white lobes. Second is incomprehensible; a stilty bird with one very crooked leg. Third still worse, with a cup comb. Among the highly commended were two or three which we much preferred to the winners among Mr. Rutledge's and Mr. Cresswell's, the Crystal Palace cup cockerel. In hens Mr. Burnell took cup and first with his grand square old hen. Second was a large bird, and 478 (Denison) was good. Pullets were

generally an even lot, and mostly pale in breast. The first was large, not very smooth in colour. Second a pretty bird. Third very fully developed, we should think a daughter of the cup hen. Cuckoos were very few, three in each class. The first cock was too light; second much better in colour, but not good in feet. The first hen was very clear in marking, far ahead of the other two, which were cloudy. The cups have this year been out down. There were formerly two for White Dorkings, there is now but one, and this is competed for by the two classes of Cuckoos as well as by the four classes of Whites. It went to the Palace cup White cock, as large a White Dorking, we fancy, as we have ever seen. Second had a poor small comb and very yellow. We should certainly have put Mr. Boissier's highly commended bird, which was very white, in its place. The first cockerel did not at all please us either in form or colour, but he looked weighty. Second was a capital White bird which we thought easily first, though his comb was not perfect. The cockerel class was generally above the average. In hens a large long bird was first, a well-shaped square bird belonging to the same exhibitor. Second, Mr. Boissier's; and Mrs. Hayne's highly commended birds are both good. The only first-class pullet is the first. The Selling classes contain several very fair pens—bargains we do not call them, for, for our own part, we never think second-rate poultry cheap at any price.

Cochins.—Buffs were large classes, numbering over 150 entries. The first cock was short-legged, rich in colour and heavy in feather, with a dark tail; dark tails seem now to be the prevailing fashion. Second was not quite so short in the back as the first, of a good golden colour with a buff tail. Third, a curious contrast in shades of colour, being light in breast, and much darker in hackles and back, with a dark tail. There were some very good cockerels; the cup bird was splendid in form with short legs, short back, and excellent foot feathering. Second a fine and large bird, the general effect of the bird's plumage was curious from the difference in his shades of colour. Third, deficient in foot feather, otherwise a good bird. Fourth, much the same type as the cup-winner. Fifth, a nice bird all round, almost cinnamon in colour. Mr. Procter's famed winning hens need no description, the cup bird was not so bright in condition as she might be; the second has wonderful foot feathering; third again is a very good bird, not quite so good in cushion as Mr. Procter's birds; fourth, a smaller bird good in shape, but in so bad a light that we could not make out her colour. No less than forty-five pullets were entered. First is a small bird but perfect in shape and of bright even colour; second, a large bird of deep colour, a little twisted in hackle; third, a large-framed pullet, deficient in feather and a little marked in hackle; fourth, very dark and shapely; fifth, in a miserable light, apparently a large canary-coloured bird with a poor comb. There were many empty pens in the class for Partridge cocks. The cup went to a grand hocked bird of immense breadth with beautiful bloom. Second was certainly not his equal, not being well through the moult. Third was small but well shaped. The cockerels were under the gallery, and it was impossible to see their colour as well as that of the cocks. The winners we thought good, and the rest a poor lot. First was bright in colour, not very broad, and with stiff hocks. We preferred the second, but he had the advantage of being in an upper tier. He was fine in size. Third was short-legged and good in colour, but had not a good comb. They all belong to Captain Heaton, who seems to have returned to his old fancy. The cup hen was magnificent in the clearness of her pencilling, but was long in the leg and short in feather. Second was smaller and less distinct in pencilling, good in shape and feather. The third award surprised us. The hen was small, long in the leg, and poorly feathered. Several good grouse-like hens were left out. Pullets were a large class, and all three prizes again went to Captain Heaton. Their pencilling was stronger than their shape. In Whites Mr. Darby's redoubtable old cock was conqueror again. Second was a big and very broad bird, not the glittering white of the first. The first cockerel was very white and good all round. His legs might be a little shorter. Second was short on legs and heavily feathered, but yellow and rather long in back. The cup hen was admirable in shape and feather, but not very large. Second was decidedly small, but almost a dumpy in legs, white and fine in fluff. Mr. Darby's very highly commended bird was the whitest in the class. The first pullet was good, larger than many of the hens. Second will make a fine hen. We liked Mr. Tomlinson's highly commended bird much; and Mr. Darby's highly commended pullet, very young, now promises well. Black cocks were few. The first was a fine cock in fine condition and bloom. Second capital in form but spoilt by a drooping comb. We did not like the first cockerel, he certainly was large, but his back and tail made an ugly angle. Second was good all round; however, we prefer his owner's other bird. These classes partially faced the light, and partially looked the other way, which made it next to impossible to judge them properly. The first hen was very good in shape and gloss, she might with advantage have more leg feathering. Second was a fair bird, but we preferred Mr. Pritchard's. The second winning pullets will both be good hens; they are of the same type of bird, hocked and long in limb.

Malay cocks were fourteen in number. The cup bird was a fine Black Red, in good feather and splendid condition; was well deserving of his position. Second a fine heavy bird of the same colour, large, cruel-looking, good in head. Third was another very good Black Red, in fine plumage. 989 (Lowe) and 994 (Joint) were good, 998 (Strugnell) large and good, 1001 (Payne) good. In cockerels first was a very large long-legged bird, dark in colour and good in head. Second was a very dark bird, large and in good condition. Third, a shade lighter, very large and fine in limb. 1003 (Payne) was good and very dark in colour. In hens, first and cup went to a good light brown hen in nice condition. Second was a good bird, similar in style to first; only in at two guineas, and of course sold. Third was a rather darker bird, good in size. 1015 (Lowe), 1021 (Isaac) and 1022 (Lowe) good, darker birds. In pullets, first was a splendid bird, very large and good in colour; she must have run the first hen hard for the cup. Second was a good light brown bird. Third rather darker and smaller. 1034 (Lowe), large and good, but darker than the fashionable colour; 1036 (Burnell) good but small. Cockerels numbered twelve, hens ten, and pullets thirteen entries.

Creve cocks.—First-and-cup was a very large bird, rather wanting in crest, but good in comb. Second a very good crested and well combed bird, although good in size smaller than the winner. 1039 (Ward) large and good. In cockerels (eleven) first was a splendid fellow, large and good in comb, but not very perfect in crest. Second was a large bird, rather small in crest. 1043 (Ward), a good-headed fine bird; 1048 (Booth) and 1049 (Lloyd) good; 1051 (Wood) looked rather old. In hens (six), which were a small class and not very good, first was a very fine hen, splendid in crest and large in size. Second a fair hen with moderate crest. Pullets were eleven in number, and were better than the hens. First was excellent, good in crest and in fine plumage. Second much out of condition, very large and fine, and good in crest. The noticed birds all good.

Houdan cocks (seventeen) were more numerous than meritorious. First-and-cup was good in feet, dark in colour, and good in crest and comb, though perhaps too short in leg. Second was good in colour and size, moderate-sized comb and nice crest. 1074 (Lane) and 1081 (Naylor) good, also 1070 (Wood). In cockerels (seventeen) first was well marked and good in size, only moderate in comb, though good in crest, medium size. Second, a dark bird, was poor in comb, although fair in crest. Third, good in crest and comb, well marked and of fair size; good combs were very scarce in this class. In hens (thirteen) first was a splendid bird, fine in crest, good feet and large, rather light in colour. Second another very good hen, fine in crest, rather light in colour, with one malformed fifth toe. 1104 (Wood) a good hen, as was also 1114 (Herbert). In pullets (sixteen) first was a good-sized pullet, well marked and fair in crest. Second was pretty in crest, and good in size and marking. Third a good pullet, smaller than second, good in crest. 1126 (Mrs. Lane) was a very good pullet.

In *Spanish* cocks (six entries) first was good in quality of face, but defective in comb. Second good, but much out of condition; rather a poor class. In cockerels (seventeen) first-and-cup was a fine bird, splendid in face, with a very neat and rather small comb, fine drop, and in grand condition. Second a capital bird, apparently quite untrimmed. 1138 (Rodbard), 1139 (Walker), 1140 (Allsop), 1142 (Mulligan), 1146 (Jackson), 1148 (Dixon), 1149 (Powell), and 1150 (Le Sœur), were all really good birds. In hens (thirteen), first (sold) was a good hen in nice condition. Second was also a good hen, pretty in plumage, and good in face and comb. The noticed birds were all very good. In pullets (nine) first was a capital bird very good in face; this bird won the cup for hens or pullets. Second a well-grown pullet, good in head. 1170 (Mrs. Allsop), 1174 (Powell), and 1176 (Walker), all good. Many pens in the adult classes were empty.

We do not recollect that *Polish* ever before mustered so well at Birmingham, numbering in all ninety-eight pens. In Black cocks (five) first was a very fine showy bird, splendid in crest, which was, however, not quite up. Second very good in shape and even in front. If in condition we almost preferred him to first. 1324 (Unsworth) good. 1322 (Countess of Dartmouth) too forward in crest. 1326 (North) very good, untrimmed; perhaps the only one in the class so shown. In cockerels (nine) first was very good in crest and in fine condition. Second a very fine bird with a splendid crest. 1330 (Williams) and 1331 (North) good and untrimmed. 1333 (Lloyd) untrimmed, very dense crest, a very good bird. In hens (five) first a handsome, globular-crested hen, very good. Second another very good hen, very large in crest. 1340 (Shaw) a good hen. In pullets (seven) first was very compact in crest and very good, though with scarcely so large a crest as second. Second a beautiful bird, splendid in crest and very fine. 1341 (Lloyd) good crest, untrimmed. 1345 (Unsworth) good. 1344 (Silvester) one of the Palace disqualified birds, a good pullet. In Golden cocks (ten) first was the Palace winner, rich in colour, beautiful in marking, very good in crest, and fine in tail. Second was very bright in colour, beautiful breast, wing, and tail, and finely formed crest. 1348 (Shepherd) a large, heavy-crested bird, well marked, but light in colour. 1350 (Burrell) heavy in crest and a fine bird. 1351 (Silvester) very good in all points, but

scarcely heavy enough in crest. 1352 (Unsworth) a well-marked bird good in crest. 1354 (Webb) beautifully laced, large crest, but not good enough in front. 1355 (Partington) a good bird, too dark on the breast. 1356 (Rawnsley) rich in colour, but white in tail, fair crest. In cockerels (eight) first was a good fronted crest, dark on the breast and white in tail. Second fine in crest and well marked. 1358 good crest and well marked. 1363 (Rawnsley) a well marked bird with very good crest. 1364 (Scott) well-marked, but a little wild in crest. 1365 (Burrell) good, excepting a small comb. In hens (ten) first was splendid in crest and good in ground colour, but deformed. Second a well marked and good crested hen, rather dark. 1367 (Silvester) fine in crest, well marked, rather pale in ground. 1369 (Unsworth) nicely laced and fine crest. 1370 (Shepherd) very good crest. 1372 (Boothby) very good crest, good colour, and well marked. In pullets (ten) first was the Palace winner, a very beautiful pullet, fine in crest and good in all points. Second is another bird of the same stamp, but younger, and will be richer in colour. 1376 (Boothby) a nicely marked pullet. 1377 (Rawnsley) a very heavy crest, but too dark in marking. 1380 (Adkins) capital crest. In Silver cocks (eleven) the Palace cup-winner again took the cup here. He is a grand bird in splendid condition, with an enormous and well formed crest. Second enormous in crest and well marked. 1386 (Lady Dartmouth) most perfectly laced, and very nice in crest. 1389 (Silvester) enormous in crest, rather wild. 1390 (Adkins) thoroughly spangled, not laced on breast. 1391 (Lady Dartmouth) splendid crest and well marked. 1392 (Bloodworth) a good bird with spangled breast. 1396 (Bloodworth) good but rather dark. In cockerels (six) first was fine in crest and shape, good wing, and spangled breast. Second a nice bird with a little comb. In hens (eight) first we thought scarcely so good as second. First was grand in crest; in marking by no means equal to second, which was fine in crest and about perfect in lacing. 1403 (Lady Dartmouth) well laced, but not quite perfect in crest. 1404 (Adkins) very heavy in crest. 1408 (Bloodworth) very good. 1410 (Unsworth) very good, but not rich in front. In pullets first was rather dark in body but very fine in crest. Second looked rather old. She had a good deal of white in the crest—a very good bird, with very compact crest. 1414 (Adkins) a handsome pullet with fine and well laced crest. 1418 (Rawnsley) rather dark but very fine in crest.

Bantams.—The class for Laced Bantams was a very remarkable one, it is probably a long time since such a collection has been seen together. The cup went to the first pair in this class (Silvers), with very pure ground colour; the cock is a little gem with perfect hen tail. The hen a little larger in proportion, but a marvel in lacing; they were priced at £20, sold at the auction. Second was Golden; the hen very good. We thought the cock a little too large and not very even in ground colour. Lady Dartmouth's famous pair of Silvers were among the very highly commended pens. Mr. Elwell's highly commended pair were very good in ground colour, but the cock had too much tail. White Rose-combed seem looking up again; eight pairs appear. The first the best we have seen for some time, pure white with good lobes and combs. Second was good again, though rather large. The first Black Rose combs was small and good in colour, we did not at all like the cock's comb; second was very green and glossy, but again the cock had an objectionable comb.

Black Red Game Bantams.—First were very stylish young birds, nice colour and good heads. Second, good style, colour and head. Third rather larger, but good in Game points. Brown Reds.—First-and-cup a beautiful little pair, very gamey, capital heads. Cock good lemon colour and well laced. Pullet a trifle too coppery in hackle. Second good in colour, nice head and eye. Pullet rather large, nicely laced on breast. Duckwings.—First a very stylish pair, very good in colour. Second rather large, in other points good. In Piles only two pens, both good.

Any other variety was a most varied and interesting class. First are the well-known Cuckoos; second Japanese, white with dark tails. The very highly commended pair was dumpy spangled-booted. Mrs. Allsop showed a pair of the old-fashioned reddish-booted Bantams imported from China. There were also two pairs of black-booted and one of white-booted.

Sultans were a fair class. First cock very good; hen scarcely equal to second. Second nicely crested and well booted. Third a fair pair.

Andalusians.—First a very fine pair, cock in particularly fine trim. Second very good, nice heads and well laced. 1431 (Troughton) and 1432 (Miss Arnold) very good.

Langshans certainly looked as much like Black Cochins as ever. In adults only two pens were shown, both good birds. In young ones first were good, large, and lustrous. Second a good pair; third a large pair.

Leghorns.—In Brown first were a handsome pair, good legs, good combs, and in good condition, might be better in earlobe. Second a capital pair in good feather. The noticed birds good. In White first were a good pair but very soiled; second a nice pair. Leghorns do not seem to improve much.

Minorcas made nine entries. First were good in comb and fine in plumage, but not extra good in earlobe. Second a very nice pair, which we liked better than first.

In the Variety class first a good large pair of Plymouth Rocks in fine condition. Second the Buff Polish (Padone Chamois), which we thought might well have changed places with the winners. They were a handsome pair. Third Ermine Polish The cock looked ill, and both were diseased in feet. 1481 (Brooke) a pair of imported frizzled fowls—very singular.

Aylesbury Ducks were fine. First-prize pair weighed 22 lbs.; second 19 lbs. 12 ozs.; third 18 lbs. In Rouens first-prize pair weighed 23 lbs. 10 ozs.; second 22 lbs. 6 ozs.; third 21 lbs. 2 ozs. The Mandarins, Carolinas, Kasarkas, and other fancy Ducks, although not numerous, were very handsome and interesting classes.

Geese were splendid classes, particularly the Coloured. The first White Geese weighed 43 lbs. 10 ozs. Second, 42 lbs. 12 ozs. In Grey and Mottled, first, 49 lbs. Second, 46 lbs. 4 ozs. Third, 45 lbs. 2 ozs.

Turkey cock.—First, 37 lbs. 2 ozs. Second, 34 lbs. 12 ozs. Third, 33 lbs. 10 ozs. In young cocks.—First, 25 lbs. 10 ozs. Second, 25 lbs. 6 ozs. Third, 23 lbs. 12 ozs. In hens the weights were respectively 43 lbs., 45 lbs. 14 ozs., and 35 lbs.; and in young ditto, 38 lbs. 8 ozs., 33 lbs. 4 ozs., and 31 lbs. 12 ozs.

Notes on the remaining classes had not arrived on our going to press. The prize list will be found in our advertising columns.

JUDGES.—Poultry: Mr. J. Baily, Mount Street, Grosvenor Square, London; Mr. J. Dixon, North Park, Clayton, Bradford; Mr. E. Hewitt, Eden Cottage, Sparkbrook, Birmingham; Mr. W. R. Lane, New Street, Birmingham; Mr. J. H. Smith, Skelton, York; Mr. R. Teebay, Fulwood, Preston. Pigeons: Mr. T. J. Charlton, Blenheim Road, Manningham, Bradford; Mr. F. Esquilant, 4, Effra Road, Brixton, London; Mr. H. Child, 71, Long Street, Sparkbrook, Birmingham.

WEST KENT POULTRY SHOW.

THE first Show was held at the Public Hall, Bexley Heath, on Wednesday last and following day. The classes were well filled, and the Secretary, although new to the work, was quite equal to the occasion. On the Committee we notice the names of Rev. A. Kitchen and some other noted exhibitors, who have doubtless helped considerably to promote the success of the undertaking. The visitors on the first day were very few, in fact only a fancier could be induced to face the torrent of rain that fell without intermission throughout the day.

The winning Coloured *Dorkings* were a fine pen and well selected. *Cochins* eleven entries, all good; one pen (Wright) disqualified for a cut comb. *Brahmas*.—The Dairy Show cockerel was first, matched with a Mealy pencilled pullet; second a fine cock, hen not so good in colour. Lights not equal to Darks. *Spanish* only three entries; second prize withheld. *French* moderate. *Game* and *Hamburgh* classes well supported. *Leghorns* were capital classes. *Andalusians* well represented (a very dark pen), cock with a good comb winning. *Polands* we thought the best in the Show, Mr. Burrell winning with a magnificent pen. *Sultans* few, but good. *Bantam* (Game) classes poor. Any variety above the average. *Ducks* deserve special notice, notably the Pekins, Mr. Fowler was first and second with grand pens, but we thought Mr. Kitchen's pens equal to them; but they were out of condition, and not judiciously matched. The drake of pen 102 should have been shown with the Duck of 103, and *vice versa*.

The *Pigeon* classes were largely filled, but very inferior to the poultry in quality.

Four classes of *Rabbits* completed an excellent Show, which will doubtless assume in time much larger proportions.

Mr. Nichols was the Judge.

HINTS FOR YOUNG AMATEURS.—No. 6.

DRAGONS.

THE Dragon is a bird exactly suited to a young amateur whether he be young in years or in the fancy. I knew a school-boy who grew, as he considered, too big for Rabbits change them—such a number of them too—for his first pair of Pigeons, and they were Dragons—an advance as he thought, and that forthwith he would be admitted, as indeed he was, to be a pleased and proud visitor of Pigeon lofts. Fanciers, on the strength of the youthful one being now a fancier, would let him see their birds, he looking on awed while, he learning the names of the birds—learning to know them in the nest as well as when adult.

I have said that the Dragon is suited to a young amateur, but why? First, he is a bird that is perfectly independent; he is as easily managed as a common Pigeon. No nurses needed for Dragons, for they breed regularly and are model parents. They nurse tenderly the young of other Pigeons, therefore trouble in this way they give none. It is heart-rending for a young fancier to begin, say, with Shortfaces—Short-faced Tumblers—and, knowing nothing of their habits, to find pair after pair of young birds left by their heartless parents to starve, while they are cooing, and flirting, and billing utterly unconcerned. But nothing of this happens if Dragons be adopted as the pets; nine, ten, or even eleven pens of young birds are sure to be brought up safely

during a year. Then they, as the Scotch say, "can fend for themselves." Woe be to the Pigeon that ventures to attack, or disturb, or rob them of nest or food. They carry "a dagger of a bill," and that bill soon goes dagger-like straight into the interfeerer's skin, and he gladly gets away, having caught a Tartar with a vengeance. All the shorter-billed birds are beaten off without a chance of retaliation. Another thing as regards Dragons: They are safe birds to keep. See that remarkably fine but very helpless Pouter blowing away and strutting away after some little Miss Tumbler, who, I grieve to say, likes the big fellow's attention. This is going on on the ground in the sunshine, when lo! a strange cat—yellow-eyed, black, diabolical-looking—sees his opportunity, and remembers, smacking his wicked lips, how very nice that last Pigeon was. Soft, velvet footsteps that cause no noise steal behind that naughtily happy Pouter cock (far too engaged with the flirtation on hand to think of danger), when pounce comes the miniature tiger, the inflated crop in a moment is windless and the fine bird dead. While if the master rushes up he may be in time to rescue the body, but it is a "body," not a living bird. You might catch a weasel asleep or catch a Yorkshireman with both his eyes shut, but you can't catch a Dragon. He has, it is true, a wattle round his eyes, but not so protruding as to hinder his seeing behind him, as in the case of a high-class Carrier or Barb. A poor dear little Fantail if very high bred is a helpless bunch of feathers, and you may pick them up easily enough—only walk behind them—for they cannot see further than their tail, and being very small-brained little dears they appear, figuratively speaking, not to be able to see beyond their nose. If on a chimney they are sure to be blown down it; but no one, I fancy, ever had a Dragon blown down his chimney. Being among the more naturally bred fancy Pigeons Dragons are very healthy. Give them clean water and decent food—they are not particular what—and they will live and be prolific for years and years. I had an old Grizzle hen which came to me an aged bird, and her former master bought her as an aged bird, but year after year and almost month after month she had eggs and young.

To say that a true-bred Dragon is very perfect in symmetry is only stating what all know. They always remind me somehow of Game pullets—not cocks, and very game—very pugnacious (their only fault) are some of them. In truth their form is symmetry itself: narrow head and neck, broad shoulders, triangular breast, pointed wings, narrow tail; and this form mounted upon sinewy legs, long, but not so long as to look like stilts.

Next, their flight, or mode of flying. They are the very opposite flyers to Tumblers. Tumblers mount high and circle, Dragons go straight out and not very high; they go off, too, in a pack, as on a message.

I used to watch with much interest a near neighbour's Pigeons. He kept upwards of a hundred, and all at liberty. They were of many varieties, his great object being to get as many sorts as possible for the pleasure of seeing a variously-coloured and variously-made group of birds feed at his feet. Well, among this multitude were a number of Dragons. About three o'clock of a winter's afternoon, if in summer later, the Dragons as true as the clock would suddenly look at each other as much as to say "Now, boys, are you ready?" and away in a pack straight on end, as fanciers say, would they fly, going some miles in the same direction, not flying high like Tumblers but at safe distance from gun shot. Then they returned and went in to bed. They had been fed just before, so their motto was, "After supper fly a few miles." I used to watch their return, and think that never did their plumage look so tight or their form so elegant, so like Game hens, as when they alighted after their fly. I would next say a word on their homing powers. Until Antwerps came into fashion, some twenty years ago or more, Dragons were the only homing Pigeons used in England; and though I will not say they will fly from Rome to Belgium as Antwerps have done, yet what Englishman, as a rule, wants birds of such extraordinary powers? He has simply no use for such. The Dragon will do for all reasonable and likely distances well enough, and for business purposes, though not for cruel races. And then look at their beauty. The Antwerps have no more beauty than dovehouse Pigeons, while there is no handsomer Pigeon living than a Dragon, as I thought when walking past the long rows of them at the recent Crystal Palace Show.

This brings me naturally enough to speak of their colours. First stand the Blues, for this seems to show their form off best—the clear blue and black bars, and they are as a rule the best birds. But hard pressing the Blues come the Silvers, a kind of drab, but in the best bred birds very pearly and chaste. They are of two kinds: Silvers with brown bars, a variety of very great beauty, which I verily believe would have died out but for the perseverance of Mr. Bishop of Dorchester; and Silvers with black bars, or usually blackish bars, difficult to breed quite black, and therefore valued by fanciers; but in truth the brown bars harmonise most properly with the silver plumage. Artistically speaking the black bar is a mistake. Red and Yellow follow; fine colours, but not equal for Dragons to Blue and Silver. Form suffers from these colours. Also the blue or ash colour is very apt to

come in the tail of these birds; and this colour Mr. Darwin found easily returned to all Pigeons when cross-bred. White are simply exquisite, but instead of the fiery eye of the Dragoon comes the big, dark, and so called "bull eye" of the Fantail, which sadly spoils them. These white birds do admirably for nurses for Carriers, and any chance interbreeding would be at once detected. There are also two very old-fashioned colours—Grizzle, which has I am happy to say come up again, and Mottles, either grey-mottle, like an old-fashioned English Trumpeter Pigeon, or mottle as the mottle of a high-class Tumbler, just a few white feathers on the shoulders and back. Both these varieties are very pretty birds, and are some of the best shaped Dragons.

A last word about the name of this bird. Like some Scotch surnames it is one thing written another pronounced—that is, by the majority, particularly of the humbler fanciers. Yet from old Moore's day to this the bird is the Dragoon, yet it is still very often called the Dragon. I have seen them advertised as Dragons and Dragons, as if they were two kinds of birds; but Dragons they are—i.e., lighter Horsemen than the old fancy Pigeon of that name, and Dragons they ought to be called. The uneducated period of the fancy is over, the educated has begun. Show, then, fanciers that you know how to spell and how to pronounce. A vixen of a woman, violent-tempered, unkempt, untidy, a she-savage amongst the civilised, may be suitably called a Dragon, but not so should be called the graceful, symmetrical, elegant, clean, and spruce-looking Dragoon.—WILTSHIRE RECTOR.

VARIETIES.

GAME FOWLS AT THE CRYSTAL PALACE SHOW.—Our reporter asks us to correct two misprints in his report of the Game at the Palace. On page 399, in the ninth line from the top of the first column, the words "we noticed" should read "though unnoticed," and Mr. Harley's Duckwing pullet should have been described as "very" good. This correction was inadvertently omitted last week.

—THE American supply of hogs (pigs), in which this country is now immediately interested, this year promises to be large, and is now estimated at one million head more than last year, which was the largest yield in the history of the trade. Since January 1st, 1878, Chicago has received 4,184,715 live hogs against 2,591,479 for the corresponding period in 1877, and is now receiving over 15,000 per day. New York is receiving from 32,000 to 38,000 hogs per week. For the year ending November 1st the aggregate packing in the West will be approximately 9,700,000 hogs, an increase of 2,000,000 over the previous year. The summer packing, since March 1st to date, shows for this year a total of 2,856,032 against 2,193,633 for the same period in 1877.

—MR. W. H. LASCELLES, Horticultural Builder, Bunhill Row, London, has received the Cross of the Legion of Honour for his exhibits at the late Paris International Exhibition.

—A WRITER in the *North British Agriculturist* has stated that a good Ayrshire cow will give 520 gallons of milk, 480 lbs. of cheese, or 200 lbs. of butter per annum. She herself weighs about 850 lbs., and many instances are known where the annual milk product weighed six times the cow which gave it. Professor Arnold quotes one which, weighing 1080 lbs., gave from 6000 to 8000 lbs. of milk annually, that of 1874 being 8271 lbs.

—AN American writer on bees observes that nothing makes a bee-keeper feel so well as clean cash at the close of the season. White honeycomb in the "prize box" has only to be shown to be sold. The temptation is too strong to be resisted. The demand for honey is yearly on the increase. Formerly it used to be considered as an article of luxury or medicine, but the mass of the people are fast being educated to consider it an indispensable article of food.

STRAW HIVES.

IN noticing lately the oft-repeated condemnation of straw hives I happened to say that they were refused admission to a Crystal Palace show. This statement was made on a recollection of a conversation I had with Thomas Bagshaw, Esq., Longnor, Buxton, four years ago. He told me he had complained to Mr. Abbott (Treasurer), of the schedule of prizes being so one-sided, and against straw hives: that he had a large straw hive 20 inches wide filled by a swarm which he wished to put in competition in a class. He wrote to Mr. Abbott to see if it would be allowed to compete, and received for answer that his "query is a poser," but that he would consult his colleagues and send further information as soon as possible. The promised information came from Mr. Hunter, to the effect that the hive or hives could not be allowed to compete. This is what I understood about the matter at the time. As soon as I saw Mr. Hunter's letter in the *Journal* I wrote to Mr. Bagshaw, who is a gentleman of unimpeachable veracity, asking him if he would be kind enough to clear up the matter in a letter to the *Journal*. To-day, a letter from him to me to say

that he cannot remember the matter distinctly enough to enable him to write a public letter, and that he has not copies of his own letters to Mr. Abbott on the question, but will enclose what he can lay his hands on. Amongst the enclosures is a letter from Mr. Hunter, dated 15th August, 1874, which says—"Your query on Class 8 came whilst I was on the continent, and I understand that Mr. Abbott replied to it; however, the matter was mentioned to our Committee, and the opinion was unanimous that the produce of swarms must not be taken into account." This statement certainly does not indicate that it was the material of the hives that disqualified them for competition, but that they were filled by swarms. What Mr. Bagshaw thought then he thinks still and says, "There was an evident wish to exclude the straw hive by the arrangement of the schedule." If his hives were really not allowed to compete for other good reasons or on other grounds my statement that they were refused admission is not correct. If I were clear on this matter I would withdraw the statement at once and openly, and consider it a happiness to do so.

Mr. Hunter's letter says he has another grievance against me—viz., that, "I should be a little more particular before shifting my blunders on to his shoulders." Mr. Hunter is certainly under some misunderstanding here, for I never thought of or attempted to do such a thing. I never misquoted his figures, nor misrepresented the meaning of his book. "The 14 inches diameter," were correctly quoted by me eighteen months ago. In my own description I said 15 inches, but did not blame Mr. Hunter, or indicate by word or deed that he was at fault. If I were to make a blunder I would bear the shame of it myself; not on any account would I attempt to shift it on to the shoulders of anybody else.—A. PETTIGREW.

OUR LETTER BOX.

ROUP (Harold).—It is rarely cured. Wash the head daily, or twice daily, with tepid water. Give sulphate of copper, one grain, daily to each bird, mixed in oatmeal mashed with ale, and plenty of green food. Separate the fowl from all others.

GRASS PARRAQUET (E. G. B.).—The food you give may be varied. You may also give bread softened with milk, and any fruit the bird will eat. Above all let it have a bath daily. Fill a soup plate with tepid water, and let the bird bathe in it. If the bird does not take to the bath, pour the tepid water over it through the rose of a small watering pot.

CANARY PANTING (M. U. M.).—Put some Stockholm tar in his water. Feed on bread and milk and plenty of chickweed.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.						Rain.
	Baromet- ter at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.				
		Dry.	Wet.			Max.	Min.	In sun.	On grass			
1878.												
Nov.												
Dec.												
We. 27	Inches.	deg.	deg.	N.	deg.	deg.	deg.	deg.	deg.	In.		
Th. 28	29.430	35.7	35.6	N.	41.9	40.6	34.2	40.6	32.2	0.490		
Fri. 29	29.521	40.2	39.7	N.E.	41.3	41.8	34.4	47.1	36.3	0.096		
Sat 30	29.512	35.4	32.2	N.	40.4	39.5	31.9	71.2	28.6	—		
Sun. 1	30.004	33.3	32.4	N.E.	38.7	38.4	29.4	40.2	24.6	0.012		
Mo. 2	29.993	35.6	35.8	W.	35.3	40.2	33.0	41.8	31.4	0.038		
Tu. 3	29.989	35.4	35.7	N.	38.9	40.2	34.0	49.7	30.2	—		
	30.102	35.4	34.9	N.	38.6	40.6	32.9	45.2	29.7	—		
Means	29.822	35.9	35.2		39.7	40.2	32.8	50.3	30.4	0.656		

REMARKS.

27th.—Little snow in early morning; rain throughout the day.

28th.—Another wet, dreary, dark day.

29th.—Fine frosty morning, bright sunshine; little foggy in afternoon and evening.

30th.—Dry, but thick and gloomy all day; fog in evening. Quite clear at 11 P.M.

1st.—Wet and gloomy with fog in afternoon; clear and fine after 7.30 P.M.

2nd.—Fair but dull, slight rain in middle of the day, brighter in afternoon, fine sunset tints; cloudy evening.

3rd.—Slight snow showers in morning, bright sunshine in middle of day; fair afternoon, and clear evening.

All the means of thermometric readings are below those of last week, and the mean of the barometer readings is also slightly lower. On the whole the week has been damp and foggy, though there were one or two fine days.—G. J. SYMONS.

COVENT GARDEN MARKET.—DECEMBER 4.

OUR market is now principally supplied with American Apples, larger quantities arriving each week, and prices being lower. English Apples are confined to late sorts. Some good Pears have reached us from California, consisting of Easter Beurré and Nelis d'Hiver, and have arrived in exceptionally good condition. Trade quiet.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	½ sieve	2 0to 5 0	Melons.....	each	0 0to 0 0
Apricots.....	dozen	0 0 0 0	Nectarines....	dozen	0 0 0 0
Chestnuts.....	bushel	12 0 16 0	Oranges.....	dozen	0 0 0 0
Figs.....	dozen	0 0 0 0	Pears.....	dozen	0 0 0 0
Plumets.....	½ lb.	0 9 1 0	Pears, Kitchen.	dozen	0 0 0 0
Cobs.....	½ lb.	0 9 1 0	dessert.....	dozen	3 0 8 0
Grapes, hothouse	½ lb.	1 6 6 0	Pine Apples....	½ lb.	2 0 4 0
Lemons.....	½ 100 4	0 8 0 0	Walnuts.....	bushel	0 0 0 0

WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 12—18, 1878.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
12	TH	Annual Meeting of National Rose Society.	48.0	37.0	42.5	7 59	3 49	6 29	10 14	18	6 4	346
13	F	Queckett (Microscopical) Club at 8 P.M.	47.5	36.5	42.0	8 0	3 49	7 51	10 41	19	5 36	347
14	S	Royal Botanic Society at 3.45 P.M.	46.9	34.3	40.6	8 1	3 49	9 11	11 1	20	5 47	348
15	SUN	3 SUNDAY IN ADVENT.	47.0	33.6	40.3	8 2	3 49	10 32	11 18	21	4 38	349
16	M	London Institution at 5 P.M.	46.5	32.9	39.7	8 3	3 49	11 54	11 33	22	4 9	350
17	TU	Royal Horticultural Society—Fruit and Floral Com-	45.9	34.0	39.2	8 4	3 49	morn.	11 48	23	3 40	351
18	W	Society of Arts at 8 P.M. [mittes at 11 A.M.	45.8	33.7	39.7	8 4	3 49	1 17	0 a 3	24	3 10	352

From observations taken near London during forty-three years, the average day temperature of the week is 46.8°; and its night temperature 34.5°.

PETROLEUM AS AN INSECT KILLER.

THE inventors of many excellent insecticides deserve well of their country, and I hope they have realised handsome profits. If not, it is certainly too late in the day now, for none of the antidotes that I have tried can bear any comparison with petroleum for efficacy, cleanliness, and cheapness. Mealy bug, scale, and even the terrible red spider need frighten us no longer, for one dose will stay their progress and two or three will make an effectual clearance.

That petroleum or paraffin is distasteful to insects may seem a small affair to the uninitiated and even to the learned physiologist, but to practical gardeners who have to supply plants by scores of thousands it is of far greater importance than whether certain plants are carnivorous, or whether all of them absorb water from the atmosphere through their leaves; for however these great questions may be decided by learned men, it will matter comparatively little to the plodding gardener, whose practice already meets the requirements of the plants as far as these matters are concerned whatever may be the theory.

The discovery of this simple remedy for insects I do not hesitate to characterise as of greater importance to the gardening world than anything we have had for years. It is comparatively new to us, and therefore we do not yet fully estimate its value. But just realise the fact that the sponge, pointed stick, sulphur, soft soap, and all filthy compounds are superseded; that people with old tumbling-down houses and walls, which have hitherto been places of security for the greatest plagues gardeners are troubled with, are henceforth to be on a par as regards cleanliness with those possessing the best modern structures; that the syringe, which at present does so much harm in the hands of the inexperienced, may be used less and less; that in the busy spring, when there is often three days' work to be done in ten hours, and the insects show us no consideration, we can annihilate them almost in a moment at the cost of a few pence, and turn our labour to a more visible account; and it will be seen that it is no small blessing this simple discovery brings to us. Although I have satisfactorily proved the fact for myself, it seems too good to be true. We shall need to dream no more, when after some months' hard work of body and mind to get a house clean, that one of our assistants has broken a pot and replaced it with one from an infested spot; that another has tied up a shoot on a Cucumber plant where there was just a suspicion of spider and gone immediately into the early vinery to pull off a tendril or two, or some other similar little thoughtless act which destroys in a moment the work of months and even of years.

I daresay many people will lay claim to this important discovery, and possibly more than one may have hit on it at the same moment. I can only trace it to Mr. David Thomson.

The proportions to use are one wineglassful of petroleum to a gallon of water. They do not mix together well, but,

NO. 924.—VOL. XXV., NEW SERIES.

as has often been advised in "Work for the Week," if two or three squirts with a syringe are made into the vessel containing the mixture and then immediately one syringe-ful on to the plant, and afterwards alternately squirting one into the vessel and one on to the plant, it will be sufficiently mixed for all practical purposes. Thus used it will kill red spider and all but the very oldest scale, although its shelly covering has become somewhat hardened, while it it will not injure the tenderest Ferns. I have no mealy bug to try it on, but from what I have heard I have not the least doubt of its effect on that terrible pest.

Dipping the plants will not do so well as syringing. I had some Ferns dipped in a tub containing twelve gallons, and although one operator was agitating the mixture with a syringe all the time while another was dipping the plants, those first dipped appropriated all the oily substance from the surface of the water, and it remained on them some weeks and discoloured them. I do not think, however, it is this oily substance which is so fatal to the insects, but some other ingredient contained in the petroleum, and which mixes fairly with water, giving it a bluish colour; for the mixture was almost as effectual after the oily substance had disappeared.

Everyone who has used soap or alkali for plant wash (and most of the mixtures which have obtained popularity contain them), knows that the glass and paint with which they come in contact are soon injured, the glass losing its transparency and the paint coming off. As far as my experience goes at present petroleum does neither of them the least injury.—WILLIAM TAYLOR.

PLUMBAGO ROSEA.

SOME writers have condemned this plant as useless because it is not adapted for cutting purposes, nor suitable for the decoration of rooms; nevertheless it is highly worthy of being cultivated, especially by those who wish to have their houses attractive through the dreariest months of the year. Scarcely a flower is to be seen outdoors at this season of the year, therefore it remains for our stoves and conservatories to be made gay with flowering plants to afford the pleasure which our employers have the right to enjoy.

Forethought and care are necessary in preparing plants for winter decoration, and the gardener has often to wait from six to nine months or more before he sees the returns for his labour. The demand for cut flowers has increased considerably of late years, and oftentimes more are expected than can be produced with the means at our command; this may be why Plumbago rosea is not more generally cultivated. We prepare some plants for the adornment of our houses, and others for the decoration of rooms and for cutting purposes. We know of no plant more suitable, nor that lasts longer in bloom, nor produces a more gorgeous effect when grown in quantity than this Plumbago. Each flower certainly is short-lived, but the flowers are produced in succession—as soon as one is faded another is opened, and thus their beauty is continued for a long time.

NO. 1576.—VOL. LX., OLD SERIES.

Plumbago rosea is a very accommodating plant, and for the greater part of the season will flourish under the shade of Melons and Cucumbers; but we do not recommend that the plants remain in such a situation the whole season, or they would not bloom satisfactorily. A few details of our system of growing this useful plant may be useful to some readers. The plants are propagated in March and April; they root freely and quickly from cuttings of the soft young wood, and should be placed in a temperature of 65°, and shaded from the sun. They can either be inserted singly in small pots or eight or nine in a 5-inch pot. The former plan we prefer, for, the spring being a busy season of the year, if a number of cuttings are inserted together they are liable to remain too long and receive a check when separated. When the small pots are full of roots the plants are shifted as they require it until they are placed in 5 and 6-inch pots—this size being large enough for our purpose—using rich fibry loam, a seventh of well-decomposed manure, and sufficient sand to make the whole porous, as the plants require liberal supplies of water in all stages of their growth.

Being of upright habit old plants require to be cut back into the hard wood to cause them to break freely. When so treated they produce young shoots freely, six to ten of which may be left for flowering on plants in 6-inch pots. The growths should not be stopped after August. We remove our plants from the Melon house about the end of July or beginning of August and place them in cool frames, keeping them close for a time; there they obtain more air and light than in the house, yet they are benefited by slight shade during the hottest part of the day. They are well syringed morning and afternoon, closing the frames early so that the sun raises the temperature considerably. There they remain until the end of September, when they are removed to a house and placed as near to the glass as possible, where the temperature can be kept from 55° to 60° at night. After this their flower spikes soon appear: the plants are then liberally supplied with liquid manure.

One important point of culture is not to starve the plants while growing. If the growth show signs of being short-jointed it at once indicates that more heat is needed; this is during the time they are in cool frames. If the wood presents a stunted appearance the flower spikes are very short compared with those on plants more liberally treated. If well grown the plants produce small flower spikes for 1 foot or 18 inches down the stem, independently of the principal spike at the ends of the shoots.

Thrips and red spider are two enemies which attack them, but if the plants are kept growing freely and the syringe is well used the insects will do little or no injury.—WM. BARDNEY, *Norris Green, West Derby.*

GROWING GRAPES IN COOL HOUSES.

I VENTURE to remark that the ripening, not only of early but of second early, varieties of Grapes in cool houses has never been doubted by experienced Grape-growers. How could it be when it is well known that Grapes ripen out of doors in England as far north as the midland counties, and occasionally even farther north? A very slight rise in the mean temperature of this country will, it is well known, bring even our later kinds of Grapes to perfection, and with the aid of a glass house alone no one should have any difficulty in economising the natural heat to that extent; but the question is, Is it advisable to dispense with fire heat altogether?

I am not an advocate for artificial heat, and I dispense with it whenever I can do so with safety, but I confess the atmosphere of a cold glass house does not appear to me to be congenial to the Vine. I would much rather have the Vines on an open wall.

I never tried to ripen Grapes without fire heat, but I have seen them ripened often enough, both in the north and south, in cool houses, in greenhouses, and such like structures, but the success as a rule was not of an encouraging kind.

That terrible scourge mildew is the bane of cool houses; the damp muggy atmosphere generated in a cool house during cold weather is just the very condition necessary to produce it. I remember, a number of years ago, being told by a well-known London nurseryman who grew Grapes on the roof of his show house next the street, and which was never fired except to exclude frost, that he had no difficulty in having good crops of fruit, but they were always ruined by mildew. It was in July when I saw the Vines; a more distressing example of mildew I never saw, and I put it down to nothing else but the cold

muggy atmosphere of the house, reckoning from what I had seen of the disease elsewhere. Therefore, while not attempting to dissuade your readers from trying the "cool system" (for the saving in fuel is a great consideration) I would advise them to prepare for emergencies by having hot-water pipes in the vineries to be used if needful.—J. S.

PRUNING AND TRAINING WALL TREES.

ALTHOUGH it may not contribute to the fruitfulness of the trees whether they are trained with the branches straight or curved in zigzag fashion, yet a well-trained tree is an ornament, and ornament combined with fruitfulness should be the aim of the cultivator. The operation of pruning and nailing trees is often put off until midwinter (January onwards), which is neither suitable for the trees nor comfortable for the workmen. The work cannot now be done too soon.

In pruning Apricots any long bare branches should be cut clean out, not retaining more branches than can be trained-in without crowding, it being a common practice in Apricot culture to lay in an excess of young wood; the trees are then often only so many bare shoots with a few fruit buds at the end. The barest of these should be removed and the young growths spread out, so as to induce young fruitful wood and the formation of spurs. All young shoots should be trained in their full length, forerights cut back to within an inch of their base, and the short stubby shoots or spurs not shortened, the object being to keep the trees well furnished with spurs and young bearing wood as close to the wall as practicable. This will necessitate the renailing of the trees, a practice far too uncommon, and the re-arrangement of the branches, which often become bound by the shreds, the branches also growing round the nails, and gumming results.

Plums and Cherries produce fruit from spurs from the main branches, which are usually trained a foot apart. It is only necessary to cut back any wood growths to within an inch of the base and retain those 1 to 2 inches in length, these being mostly studded with bloom buds with a wood bud at the apex. Old trees are improved by a good thinning of the spurs, never losing an opportunity of replacing an old long spur by cutting back to growth nearer the base; but avoid anything like wholesale reduction, as that may not only reduce the prospect of next year's crop, but induce a quantity of spray difficult of being restrained. The thinning and shortening of the spurs must therefore be moderate.

Pears require to have all the wood shoots cut back closely, but any that have been stopped and have not pushed more than an inch or so of fresh growth may be retained, always presuming they are not more than that length from the branch they originate from. The spurs must not be touched, except they are much grown from the wall and crowded, when a judicious shortening and thinning is advisable. All extensions should be trained-in their full length, but the leaders must be cut back to 12 or 13 inches, so as to originate shoots at the proper distance apart. If the trees are not unnailed examine the shreds and nails, making sure that no branches are held too tightly and that the nails are not likely to injure them. If the trees show any signs of enfeeblement remove the soil down to the roots, picking it from among them with a fork, and replace with fresh turfy loam, with a fourth of well-decayed manure added and a sprinkling of half-inch bones (about a twentieth part), and if the soil be deficient in calcareous matter add a tenth part of old mortar rubbish or chalk well incorporated, the roots being laid in it and the soil made tolerably firm. If a good watering is given with liquid manure the trees will start all the more strongly in spring. If, on the other hand, there are more wood than fruit buds, bare the roots and sever some of the longest, retaining the fibres, covering them with the compost above named, omitting the manure, and giving a good watering.—A. G. P.

EXHIBITING CHRYSANTHEMUMS.

MR. TUNNINGTON'S letter on page 426 reminds me of the old proverb—"If you go to Rome do the same as the Romans." There is not, in my opinion, anything wrong in an exhibitor arranging his flowers on papers, but a dozen flowers so set up among hundreds without papers have a conspicuous appearance, and the stand alluded to at the Westminster Aquarium, to use a mild term, looked extremely unattractive. This was in part because the blooms were rough and of various sizes, and partly, perhaps, on account of the paper collars. No one,

I think, can imagine that the exquisite blooms of Mr. Sanderson in the same show would have been enhanced in beauty had they been shown on paper. Although the mode of exhibiting on paper may not be wrong, yet well-grown blooms of Chrysanthemums need no such artificial aids to display their beauty to the best advantage any more than do Roses, and yet a Rose show with the blooms placed on paper would present little short of a hideous appearance. The less artificiality there is connected with exhibiting flowers of any kind the better, and if the paper custom of Liverpool was done away with the show would not in the slightest degree be less attractive; yet I would not withhold a prize from meritorious blooms because paper had been employed in their arrangement.—A LONDON JUDGE.

LEMONS.

IN most gardens of any pretensions there are a few Orange trees grown, generally for ornament, but very seldom for use, because, as a rule, the fruit cannot be had of sufficient quality or quantity to be of service. This, I think, is more the fault of culture than anything else. Be that as it may, however, I find that Lemons can be cultivated more successfully than Oranges as a rule. The trees require no more attention, and they fruit more freely. As to their value, Lemons are always in greater demand in the kitchen and still room than Oranges, and I think if every gardener had a good Lemon tree or two they would find them as useful as any other fruit tree.

We have two Lemon trees planted out on the back wall of one of our conservatories from which we gather at least four hundred fruit annually, and as they are of a large size and very juicy they are much valued. Besides, we have ripe Lemons all the year round, and this is convenient in many ways: The trees are continually blooming and forming fruit, so that the supply is always kept up. The house in which they are growing is only heated sufficiently to keep out frost, and under this cool treatment we find the trees thrive better than in a warm house. The branches are trained on a strong wood trellis, and they are never allowed to become crowded. They are syringed sometimes to wash the dust off the leaves, but insects are kept away and the vigour of the trees sustained chiefly by attention to the roots. These have plenty of good loam and cow dung to work in, and at the same time they have often a large tankful of liquid manure emptied on them. The trees are thus kept healthy, and yet they are always fruiting so freely that the wood never becomes gross.

One Lemon tree trained on a surface of wall, say, 12 feet square would yield a large quantity of fine serviceable fruit, and any of your readers with small trees in pots could not do better than plant them out. A bed 4 feet square and 2½ or 3 feet deep is large enough to sustain a very large tree; if the root space is smaller than this, liquid manure and a rich surface dressing twice a year will do much good.—M. M.

DRESSING FLOWERS.

WHAT is all this about dressing flowers? Who is it that exhibits that does not dress, be it flowers, fruit, plants, or vegetables? Is somebody angry because somebody else wins? or is somebody too lazy to dress the flowers—that is, set them so as to look to their best advantage? or does he not know how? And if he cannot catch up and overhaul the old hands at the first, why, try again. One knows that in business the old hands and old established firms take a lot of beating; and I believe it is and always will be the same in exhibiting. Please pray don't grump because somebody else grows and shows—dresses, if you like, better than you do! What is the use of Mr. — wanting Roses to be shown without being disbudded? or Mr. — throwing up exhibiting and selling his boxes because he cannot win, or wanting special points for Teas? or Mr. — wanting Carnations shown as grown? Why, we shall be getting disqualified because the wind has whipped off some of the Rose buds and they look as if purposely disbudded, and all sorts of disagreeables, if such stuff and nonsense is to be introduced in the rules. He who can show best will win. Why not? And as for dressing, everything is dressed. Are not Grapes dressed—*i.e.*, shown to their best advantage? I fancy I remember seeing in our Journal in the autumn that somebody would have won only that "his Grapes were badly shown," rubbed, &c. Is not all other fruit dressed? I guess and calculate, as neighbour Jonathan says, that one would stand a poor chance indeed of winning if one's fruit

was jumbled up anyhow instead of being nicely arranged with leaves or moss, the best side outwards, and the best of all on the top. The same with plants. Would it look well for large and small plants to be mixed up without arrangement, shown as they grow—no training, no tying, no sticks, which are all dressing? Again, Cauliflowers and such like shown as grown! I wish prosperity and long life to horticultural societies and exhibitions; and for this, we *must dress*. Catch a fellow putting in a petal, or other swindle, then down upon him at once; but to say exhibitors must not dress—that is, clean, arrange petals in flowers, remove bad petals, cut out a damaged or mildewed Grape, or do anything else that will legally render one's exhibits more showable and less defective, cannot be prevented. Let us be broad and large in our principles. Let us say simply that any attempt at deception shall be punished, and let the rest alone. And as for Jones not winning because his soil is bad, or Smith not knowing how to set up his flowers, or Brown having a long journey by rail, while Robinson wins because his soil is good and can set up his flowers to win, and is close to the show, why Robinson is fortunate, but it will be my turn, perhaps, next time. Now I am about it, I think it decidedly bad taste to call So-and-so Hercules or somebody else Goliath, and set up Smith, Brown, and Jones as sure to win. There never was man so good but that another steps forward as good.—W. FARREN.

THE CULTURE OF DRACÆNAS.

VALUABLE additions have been made during the last few years to this important family of plants, both by the introduction of new species and by hybridisation. The beautiful colouring of the foliage and the noble yet graceful habit of the plants render them suitable either for exhibition or house decoration. It is a great advantage that a stock of these beautiful plants can be worked up in a very short time. In a young state their habit of growth is all that can be desired for the dinner table as well as their colour, which shows up magnificently by artificial light.

Dracænas are propagated in various ways, sometimes by cutting the old stem up into pieces about an inch long, and by fleshy root-cuttings. But the readiest way I have found to work up a stock is to take the old worn-out plants, shake all the soil from the roots, trim them in closely, cut the tops of the plants off and lay the stems lengthways on cocoa-nut fibre and sand in equal parts, covering them half an inch deep, where they will have the benefit of 75° or 80° of bottom heat. Give water sufficient to keep them just damp, and in a very short space of time they will emit shoots at almost every eye. When they have grown a few inches high and have emitted roots at their base they should be severed from the old stem with as much root attached as possible (when the old stem may be placed back again if more young plants are required), and potted into small 60-sized pots in a mixture of peat, leaf soil, and fibry loam in equal parts, with a little powdered charcoal and sand added. Plunge the pots in a bottom heat of about 75° until the plants are well rooted, when they should be placed on the surface of the bed. Dracænas may be propagated with success at all times of the year, but I have found the spring to be the most favourable season, as then there is ample time to grow the young plants into attractive specimens by the ensuing winter. The plants luxuriate in a brisk moist heat, and require to be shaded from strong sunshine, or they will not colour well. Great care must be taken not to overwater nor overpot them. Syringe once on bright days at closing time, working the syringe as much as possible under the foliage to keep down insects. After the small pots are filled with roots the plants should be shifted into 5 or 6-inch pots, as that is the usual size for decoration, using the soil a little rough, and which should now consist of equal parts of peat and turfy loam with a little charcoal and enough sand to keep the whole open. When the soil becomes exhausted a little of Standen's manure or guano should be sprinkled on the surface, which will prove very beneficial.

Where plants are intended for specimens those plants of the freest and best colour should be selected. Great care should be taken not to select those that are woody at their base, as such will never make good specimens. Or if there are large plants that have become leggy split a pot in halves, notch the stem of the plant, placing the pot round the notched part, fasten the pot with wire and fill it with soil. After the pot is well filled with roots the stem should be partly severed below the pot, and a week afterwards it may be severed altogether.

Keep the plant close and well shaded for a few days until it is well established and shift it on as required, using the soil of a richer character than that employed for smaller plants. Two parts of turfy loam, one of well-decayed cow manure, and one of peat or leaf soil with a liberal addition of charcoal and sand, will be a suitable compost; the pots to be well drained and a close watch must be kept for insects, as they speedily mar the beauty of the plants. By the methods of culture here detailed *Dracænas* may be propagated speedily and be grown quickly and well.

Those commencing the cultivation of these plants will find the following a good selection:—*Amabilis*, *Baptistii*, elegantissima, *hybrida*, *Goldieana*, one of the most distinct; *terminalis*, *terminalis alba*, *Frederici*, *Mooreana*, *imperialis*, *Taylorii*, *Baronii*, and *gracilis*.—A SOUTHERN GROWER.

DRESSING CARNATIONS AND PICOTEEES.

As the notice which you inserted from me was the commencement of the discussion which has continued for some weeks in your columns, I should like to again advert to it. In doing so I cannot but regret that personal feeling has been introduced into it. I attacked nobody, imputed no unfair or dishonest practices, and I am sorry that the tone of some of the communications has been characterised by a certain amount of bitterness. I must again repeat that I have no personal interest in the matter. I have grown in one way or another these flowers for a great many years. I never exhibited but one stand, and that was, as I have said, to show what undressed flowers were. It is immaterial to me who wins; indeed other matters call me far away at the time of the exhibition, so that I am not likely even to see it, and the opinions which I venture to express are only intended for the good of floriculture. Whether I am right or wrong in them I must leave for others to decide, but I am glad to find that an increasing number seem to agree with me, and on all sides I hear that the discussion will do good. Let me say it has done me good, for it has enlightened me a good deal on the subject of dressing.

In the first place we now understand that there are professional dressers who will undertake the duties of man milliner for those who have neither the ability nor time to manipulate their own flowers. Might it not be as well, if the system is to go on and flourish, that their names should be advertised? The tyro would then know where to go, not merely, as he may now do, for the tools by which it is to be done, but also for the artist who can use them.

Then it has come out that there are different styles of dressing. I was talking the other day to one of the exhibitors and a very good grower and dresser of these flowers, when he expressed his surprise at the position which one of our southern growers occupied, and he attributed his inferior position entirely to his mode of dressing. He said, "I have always thought his style of dressing—that of bringing them up full to the centre, the best; but the winning flowers were dressed much more flatly." I was told this was the northern style, and as I believe the judges were northerners it is easily accounted for." Of course this is a matter which cannot be helped; the fancies of judges are manifest in most exhibitions, and exhibitors have to take account of it. Only the other day I heard one of our very best poultry judges say he had given up judging, for he would not stand the whims and caprices of those who set up standards which he could not agree with. And so it would seem that exhibitors of Carnations and Picotees must not only be able to dress or get others to dress their flowers, but even then it will be a lottery as to who shall win, just as it is to the exhibitor of Dorkings whether the judge likes a dark or light-coloured bird.

There have been various attempts during the discussion to get off into side issues—to attempt to class the dressing of these flowers with the thinning of Grapes or arranging the growth of pot plants. This is really too good, and can only deceive the very simple; the truth being that this practice is, in the extravagance to which it is carried, totally different both in principle and detail from that to which any other flower is subjected. Then, again, a great deal has been made of the question as to whom the merit of a prize is due, the grower or the dresser. This was merely a secondary matter, and was asked more in fun than seriously: my wish was certainly to keep the discussion on the main lines.

I have read nothing that in the least degree alters my views. This may be owing to my density of understanding; but I would observe that it is no argument to say that a practice is

old. So are a great many things that would be more honoured in the breach than the observance. Is it not better, even although it be old, to see whether it cannot be altered? It is evident that there are some varieties which can be shown without dressing, that have long pods which do not split, that are not overcrowded with petals half of which have to be abstracted before the flower is presentable. Let raisers set themselves to give us such flowers as *Edith D'Ombra* and others of a like character. Let it not be said it cannot be done. "Cannot" ought not to be in a florist's vocabulary, and when I recollect what has been done in other flowers I am sure it can be in these. I remember when first it dawned on *Chrysanthemum* exhibitors that an incurved flower was the thing to aim at, and I recollect what dodges used to be resorted to in order to twist into that form flowers that had some inclination to it; and now we have, as the result of the hybridisers' efforts, flowers so completely incurved that they are a complete ball. Then, again, I remember when the *Gladiolus* was first shown, that it was evident that the best style of flower was that where all the flowers faced one way and were not winged. Here too I remember the dodges which were resorted to and recommended to effect this; and now—well, in some of Mr. Kelway's latest seedlings the flowers so completely face one way, and are so closely packed into one another, that you can hardly get a pencil in between them. Some of us ridiculed the plan of showing in those days, even placing them in *Yucca* leaves or running pieces of wire behind them, and we were "sat upon" for so doing; and now we have our revenge. People would no more think of doing these things than of showing them upside down. It may be—I may not see it—but I am equally sure that the time will come when persons will look back with a smile to the days when they were obliged to torture and manipulate the Carnation and Picotee, and in a newer race of flowers see that which we are now contending for carried out.

One result of this discussion is pleasant to me as an old florist. I never again expected to see a communication from so old and able a florist as Mr. Slater, one who knows more than anyone living of the past history of Auriculas, and Carnations, and Picotees, and whose name was at one time so prominently before the public. I see that in the calm of an honoured old age he has still some enjoyment in the thoughts of the past, one of the pleasant things connected with the pets we cherish and love.—D., *Deal*.

LAWN SAND—PETROLEUM STOVES.

I TRIED the effect of lawn sand some five years since. A small quantity was procured for experiment, a piece of grass carefully measured, and the sand weighed and applied strictly according to the instructions. In a few days both grass and Daisies appeared to be killed, but the grass soon began to grow again very luxuriantly; so much so that if allowed to grow for a week the machine could not cut it, and being also of a very dark green the patch presented a remarkable contrast to the rest of the lawn. What few Daisies, &c., appeared to escape the first dressing were afterwards treated to an extra pinch, and the result was considered a great success; but the following spring on the piece so treated the grass was as poor, and I believe poorer, than on any other part of the lawn, and the Daisies as plentiful and rampant as ever.

A question is often asked about heating greenhouses by means of petroleum stoves. Four years since I was asked to look after a house newly erected. Seeing no means of warming I inquired what was going to be done. I was told a paraffin stove was ordered. I expressed strong doubts as to its efficacy and safety, but was overruled, and it duly arrived and was put into use. The plants soon began to look very sickly. I blamed the stove. The lady believed that one stove was not sufficient for the size of the house, so another was procured, and that completed the failure, for by Christmas there was not a green leaf in that greenhouse except on a few Ferns and Primulas, which did not seem much affected.

The stoves were then banished, a small coil boiler and some piping introduced, and in a very short time the plants put forth new leaves, and it once more looked like a greenhouse, to the great satisfaction of all concerned.—J. J., *Lancashire*.

MEDLARS.

IN Dr. Hogg's valuable "Fruit Manual" three Medlars are described; the Broad-leaved Dutch, Nottingham or Narrow

leaved Dutch, and Stoneless. The one we grow and prefer is the Narrow-leaved Dutch. Grown as a standard bush with a very large head it never fails to bear a heavy crop of evenly sized fruit about 2 inches in diameter. The blossom is not so easily injured as that of the Apple in spring, and the trees will succeed in any exposed place and in nearly any kind of soil. We never prune ours further than thinning out the branches, and the surface of the soil over the roots is dressed every year or two with decayed manure. The fruit is gathered about the beginning of November, and laid out in the fruit room along with Apples, Pears, &c., and during December, as soon as it becomes soft, it is used for making jelly and for dessert. The fruit is so much relished for both of these purposes that no garden where fruit trees are grown should be without a Medlar tree. When space cannot be given it in the kitchen garden it is quite ornamental enough to be planted in the pleasure grounds.—A KITCHEN GARDENER.

REVIEW OF BOOK.

English Folk Lore. By T. F. THISTLETON DYER, M.A., Oxon.
London: Hardwicke & Bogue, Piccadilly.

ON laying down this book after a careful perusal of its pages one conviction was forced upon our minds, and that was that we were strangely ignorant of a great deal that is or appears to be "folk lore." We were not aware that so much superstition was still lingering in our midst. To read of charms for fits and charms for lovers we were prepared, but not to find that each day of the week, each month, and each new moon had its particular superstition.

Mr. Dyer divides his book into thirteen chapters, which may be classed under three heads—plants, animals, and the folk lore which concerns human beings. The chapter on plants is very interesting, and as this is the one which most concerns our readers we will give a few quotations from it.

Mr. Dyer lays down a rule that flowers form an important part in the formation of character. The purity of childhood was symbolised by the early Snowdrop, from its exquisite and virgin whiteness; and the Harebell was, on account of its delicate blue colour, considered typical of truth. It will be a surprise to many of our readers to know what a great deal of superstition attaches to the simple garden vegetable Parsley. Plutarch tells us how a few mules laden with Parsley threw into a complete panic a Greek force on its march against the enemy, and the reason was that the Greeks used to bestrew the tombs of the dead with this herb. In Devonshire it appears to be believed that to transplant Parsley is to commit a serious offence against the genius who presides over the Parsley beds, which is sure to be punished either on the offender or one of his family in the course of the year. In Hampshire the peasants refuse to give any away, and in the neighbourhood of Cobham (Surrey) it is believed that if Parsley seed is sown on any other day but Good Friday it will not come double.

The Rose also was largely used by the Greeks and Romans for funeral purposes, and the tombs of the dead were frequently decorated with them. Camden and Aubrey both speak of the churchyards in their time as thickly planted with Rose bushes. In Wales it is the custom to plant the white Rose on the grave of an unmarried female, and a red Rose is appropriated to anyone distinguished for benevolence of character. It is also considered very unlucky to scatter the leaves of a Rose on the ground, and an instance is given of Miss Ray, who was murdered at the Piazza entrance of Covent Garden Theatre, who, as she picked up a lovely red Rose which had fallen from her dress, was much troubled at seeing it fall to pieces, saying, "I trust I am not to consider this an evil omen."

In South Lancashire, Rosemary to this day is carried by the mourners at a funeral, and in Wales it is customary for funerals to be preceded by a female carrying sprigs of Bay, the leaves of which she sprinkles on the road which the corpse is to travel. A flowering Myrtle is believed in Somersetshire to be a great acquisition to a house, and with regard to this plant a singular superstition exists. In the *Athenæum*, February 5th, 1848, a correspondent says, "Speaking to a lady of the difficulty which I had always found in getting a slip of Myrtle to grow, she directly accounted for my failure by observing that perhaps I had not spread the tail or skirt of my dress, and looked proud during the time I was planting it." It is a popular belief in Somerset that unless a slip of Myrtle is so planted it will never take root.

It is a common notion, so says Mr. Dyer, that in leap year Broad Beans grow the wrong way—i.e., the seed is set in

the pods in quite a contrary way to which it is in other years. With regard to lovers there are numerous ways given of finding out whether they will succeed or be true to one another. One is by carrying bachelors' buttons in their pockets. They judged of their good or bad success by their growing or not. A practice called "peasod wooing" was formerly very often to be met with. The cook when shelling green peas would, if she chanced to find a pod having nine, lay it on the lintel of the kitchen door, and the first man who entered was believed to be her future husband. In Cornwall with regard to healing plants, the Club Moss (*Lycopodium inundatum*), if properly gathered is considered good against all diseases of the eyes. A decoction also of the Nettle is a favourite prescription among country women for consumption, and in Scotland there is a rhyme—

"If they wad drink Nettles in March,
And eat Muggins [Mugwort] in May,
Sae mony braw maidens
Wad not go to clay."

The Ivy, too, is a healing plant. In Shropshire children affected with whooping cough are allowed to drink all they require out of drinking cups made from the wood of the common Ivy, this being considered an infallible remedy. The passing of children through holes of trees to cure certain complaints is still practised, and in Cornwall there is in the parish of Madron a curious Druidical remain known as the "Stone of the Hole." This is an upright circular block of granite, and in its centre has a circular hole. Through this children were passed a certain number of times, under the notion that this would cure them of the complaint from which they might be suffering. Plants are also good barometers. Clover Grass is said to seem rough to the touch when stormy weather is at hand. Heliotropes and Marigolds do not only presage stormy weather by closing their leaves, but turn towards the sun's rays all the day, and in the evening close.

An opinion prevails in many parts that an Elder tree is safe from lightning, and the *Stamford Mercury* in 1861 relates that when the electric fluid struck a Thorn bush in which an Elder had grown up and become intermixed the Elder escaped unscathed, though the Thorn was completely destroyed.

There are many traditions as to the wood of the cross on which our Lord was crucified. The most common belief is that it was made of Aspen (*Populus tremula*), and that the leaves have trembled ever since at the recollection of their guilt. In the west of England there is a tradition that the cross was made of Mistletoe, which until this time had been a fine forest tree, but was condemned henceforth to lead a parasitical existence. The gipsies believe that the cross was made of Ash, while some believe that it was made of four woods, signifying the four quarters of the globe or all mankind, and consisted of the Palm, the Cedar, the Olive, and the Cypress. Another superstition is that the cross was made of Elder, and that Judas hung himself on an Elder tree. In Cheshire the Arum maculatum is called Gethsemane, because it is said to have been growing at the foot of the cross, and to have received on its leaves some drops of blood, and in Scotland it was formerly believed that the dwarf Birch is stunted in growth because the rods were formed of it with which our Lord was scourged.

The book is a most interesting one, and will well repay perusal, for it is not only full of instruction but abounds in anecdotes, many of which are exceedingly amusing. As a sample we will give this one from the chapter on charms:—"Sir John Holt, who was Lord Chief Justice of the Court of King's Bench in 1709, who it is said was extremely wild in his youth, and being once engaged with some of his rakish friends in a trip into the country in which they had spent all their money, it was agreed that they should try their fortune separately. Holt arrived at an inn at the end of a straggling village, and strolled into the kitchen where he saw a little girl shivering with ague. Upon making inquiries he found that she had been ill for a year, notwithstanding all the assistance that the mother could procure from physic. He gravely shook his head at the doctors, bade her be under no further concern, for that her daughter should never have another fit. He then wrote a few unintelligible words in a court hand on a scrap of parchment, and rolling it up directed that it should be bound on the girl's wrist, and there allowed to remain till it was well. The ague returned no more, and Holt having remained in the house a week asked for his bill. 'God bless you, sir,' said the old woman, 'you be nothing in my debt, I'm sure.' With pretended reluctance he rode away without paying. Many years elapsed, and Holt advanced in his profession. One day

when sitting as judge on circuit an old woman was brought before him charged with witchcraft. To support the accusation several witnesses swore that the prisoner had a spell with which she could either cure such cattle as were sick or destroy those that were well, and that the spell was now in court, upon which statement the Judge desired that it might be handed up to him. It was a dirty ball, wrapped round with several rags and bound with packthread. These coverings he carefully removed, and beneath them found a piece of parchment, which he immediately recognised as his own youthful fabrication. For a few moments he remained silent, then told the jury the whole story, with such effect that his old landlady was the last person tried for witchcraft in that county."

CARPET BEDS.

In their estimates of carpet beds some admirers give the palm to simple designs, others prefer patterns more intricate.



Fig. 67.—Carpet Bed at Regent's Park.

1. *Dracæna australis*.
2. *Coleus Verschaffeltii*.
- 3, 3. *Pyrethrum Golden Feather*.
- 4, 4. *Alternanthera amabilis*.

- 5, 5. *Echeveria secunda glauca*.
6. *Alternanthera paronychioides*.
7. *Alternanthera amœna spectabilis*.
8. *Mesembryanthemum cordifolium variegatum*.

9. *Echeveria metallica*.
10. *Lobelia pumila grandiflora*.
11. *Autannaria tomentosa*.
12. Box edging.

The diagram annexed is of a bed that was highly approved of in Regent's Park last year, and is noteworthy by the delicate tracery of its pattern and its general artistic appearance. It was tastefully planted, as may be seen by an examination of the figures and corresponding references. Apart from the applicability of the designs for a round bed the tracing of it by young gardeners during the long winter evenings would be commendable employment, as competency in geometrical drawing is an important element in a gardener's qualifications. Every young man aspiring to the position of a skilled gardener should persevere until he can draw the pattern of this bed readily and correctly.

AUTUMN RASPBERRIES.

AUTUMN-BEARING Raspberries are well worth cultivating, even where the conditions of soil and climate are so unfavourable as to make the returns both small and uncertain. Raspberries in the two last months of the year—sometimes in mild seasons even a dish at Christmas—are something worth running the risk of occasionally losing both a little ground and labour

for. Of course they are neither so large, nor in the best of seasons is the flavour to be compared to that of the summer sorts, but coming in as they do on the verge of the dead season, when all other small fruits are past, it is only reasonable to suppose that were they better known they would be more extensively cultivated.

Nurserymen catalogue several sorts, but that known as the October Red appears to be the most useful. Certainly here in the west of Scotland it is the only one that I have seen do anything like well, but my acquaintance with the other kinds is very slight.

The best time to form a new plantation is from the middle of November up to the present time; but they will do fairly well planted any time during the winter. A warmer and more sheltered situation should be given them than is required for the summer-bearing sorts, say a border on the south side of a good Beech or Holly hedge. This is even preferable to a wall, as the heat there is not so intense in summer, and the shelter in autumn is quite as good. This border should be trenched to a good depth—not less than 2 feet at least, and well manured at the same time with rich dung. The plants may be put in rows across the border 2½ feet apart, and allowing not less than 4 feet between the rows. Any closer planting than this, even in a small garden, is not in the end economical. The canes that are planted should be allowed to remain until they are in leaf, as they help to spur the roots into action, when they may then be cut off close to the ground, as it is the canes of the current year which produce the fruit. The crop the first autumn will be *nil* or next to it, and the canes should all be cut down in December. If many suckers have been thrown up between the rows they should be carefully forked out, but anything like a general deep digging should be avoided, a good top-dressing of decayed cow dung being much preferable.

This propensity for sending up numerous suckers far and near is one of the worst traits in the character of the October Red Raspberry, and if any semi-natural system of cultivation be attempted a fruitless thicket is sure to be the result.

When the young canes have grown 6 or 8 inches in spring, half a dozen of the strongest on each stool should be selected and tied up to a stout stake, and the others cut away, as also should be all succeeding shoots which appear during the summer.

The other sorts most commonly grown are the Autumn Black, the Large Orange, and the October Yellow, which is a variety of the Red, but more insipid. The

October Red is said to be a cross between the old Double-bearing Red and the well-known Fastolf.—R. D. TAYLOR.

THE ROSE ELECTION.

IF Mr. Hinton will not think me too late in doing so, I beg to tender him my acknowledgments for the pains he has taken to bring the election of 1878 to such a successful completion, and I feel sure there must be hundreds who, like myself, have read with very great pleasure and satisfaction the weekly contributions that have appeared in your Journal. And when we consider that Mr. Hinton's task has been purely a labour of love, we must all feel deeply indebted to him for the trouble he has taken to make the election as complete and useful as possible. Useful I said, for has not a "WILD SAVAGE" acknowledged its utility? Then how much more must civilised and rational people do so?

Of course there are Roses omitted and others included in the list which some of us no doubt have thought might have been otherwise arranged; but taking into consideration the varieties of soil and climate, the differences of aspect and situation,

and the variety of opinions on the colours, shapes, &c., of Roses, it is no marvel that in choosing the best forty-eight kinds no unanimous opinion was come to.

I am not quite sure what is meant by the best forty-eight Roses. I gather that the respective electors have voted for those varieties that grew and bloomed the best in their own neighbourhood, and not for the intrinsic merits of the blooms alone. Such voting, in my very humble opinion, must always be unsatisfactory to the general world of rosarians, inasmuch as while a Rose may grow healthily and vigorously with A, it may barely be able to exist with B, and as a consequence receives A's vote, whilst B gives his to one that does better with him. Under such circumstances we need scarcely wonder at the want of unanimity amongst the electors; but taking the election as it is, possessing as it does the opinions of so many competent judges, and from such a variety of soils, &c., no one can doubt its value to a very large class of Rose-growers, and there are few lovers of the Rose who will not derive some information from the election and the discussion which it has brought about.—F. BOYES, *Beverley*.

WOOD FENCES FOR FRUIT-GROWING.

To secure the advantages of a wall for a reasonable length of time at a less cost is what we must aim at in the matter of wooden fences. To be secure against wind must be one consideration, and as durable a post as possible another. For a close fence posts ought never to be less than one-third their length in the ground; if less, unless stayed, the wind is certain to move them. Of English wood oak undoubtedly is the most durable, although sapling Oaks with only 1 or 2 inches of heart are certain to go at the surface the second year. The disadvantages of oak are its cost, its aptness to split whilst nailing, and its being too hard to drive a nail into when dry. Larch is by its toughness suitable for nailing; and a post not overstripped from the heart of a Larch tree will stand at least for twenty years. A sapling Larch—but to a much less extent—has the same failings as has the sapling Oak, yet for gates and railings it will withstand the effects of the weather for many years. Sycamore is the least durable; and of hard woods beech is the next that will not stand being wet and dry for two seasons; whilst for any purpose constantly dry it is durable, and for any purpose always under water it is as durable as oak. Elm makes a fair post, whilst ash is little better than beech.

In advising for the best fence for our purpose I will suppose that I have everything at my command. If the fence is to be 6 feet 8 inches I would have larch posts 6 inches square. The portion below the surface might be left round, the better to afford a good charring, and then you have a small portion of charcoal for the roots of the trees for nothing. Failing larch I would procure a 7 by 2½ inch red wood batten or Norway red wood scantling—perhaps the cheapest wood imported. I would fix my posts in the ground 8 feet apart, being careful whilst setting them to have a lath of the exact length to lie between post and post. I would have them 8 feet to an eighth of an inch, and make sure of having them well firmed at the bottom—this is the secret in setting firm posts. A piece of wood nailed across the bottom of each post would add much to their stability. I would then get a batten cut in the manner that the timber merchant would understand by five "rips," "cuts" means cutting the deep way or into deals. Then each of these six laths I would cut diagonally. One of these laths I would nail level with the face of the post at each side, and nail the other within to leave a groove 1½ inch broad, and the thickness of the angle lath would secure their being 1 inch deep.

Coping boards being desirable, the next task would be to fix a scantling along the top to secure them to. These scantlings would be from 25-feet battens one rip; this would leave them 3½ inches by 2½ inches. These would reach three posts, and allow the wood being cut without waste. The posts being all fixed I would mark each post on the scantling with a pencil, and then notch them at the posts half through; and, this done, would nail them on the top of the posts, the face of the fence to be level with the inside of the groove on the posts. Being marked at the bottom and nailed on the top would secure each post being parallel. I would then stretch a line along the face of the posts just above the ground level and sight it, being particular at necessary intervals to raise it up straight. Marked from this line I would cut all the angle pieces forming the grooves—that is, the ends that might be

below the surface. I would next nail a piece of wood about 2 inches thick close up under the angle beads to form a bearer for the boards; of less thickness it would be insufficient, as the weight of all the boards would rest upon it. I would next secure, at about 1s. 2d. per yard, tongued and grooved flooring deals in 16-foot lengths and 1½ inch thick; seven-eighth-inch deals at about 2d. per yard less would soon have their grooves damaged. With a lath the length between each two posts I would mark the deals, then cut them, slide them down the grooves on the posts, making sure to have the tongued edge of the deals uppermost to prevent wet lodging. The advantage of this fence is, there will be no open joints for north winds to injure Peaches, &c., when in blossom; let the sun be ever so hot the joints would always be close. Plain-edged deals would answer the same purpose, but the sun warping them they would not be so neat. By having the bearing pieces carefully lined before fixing the joints of the deals would be straight from end to end. If done in the winter season the deals should be level with the top of the posts, then what they shrink in summer more than the depth of the notch of the scantling would be of no importance.

The coping I would procure from 17 feet 11 by 3 inch deals two cuts, or I would have them broader if considered necessary. For each coping board I would have three tail hinges with crooks, the latter being rabbeted into plates to admit their being screwed on to the top of the scantling; this would prevent the scantling being split, and the tail of the hinge being screwed across the coping board would strengthen it and also prevent it from splitting. Hinges and crooks would allow the coping to be slipped off when it was unnecessary; in fact they might be used as shelving for, say, ten months in the year. An angle stay secured to each post by loop and staple, and staples rabbeted into plates the same as the crooks, and then securely screwed to the coping-boards, would be quite sufficient to secure them. The end of the stay to go up next the board would require to be bent, then a wood slot would make it all secure.

To fix wires down the face of the posts is easy. Secure one end of the wire, wrap the other round a piece of round wood, and then stretch by getting hold of any of the posts, drive a staple at each post, and in a few minutes the work is done. The posts for a very exposed place may be closer if preferred. Make certain at least once a year to coal-tar each post 6 inches above and below the surface: this will double their durability. One advantage of a wooden fence is its being easily removeable, and whilst quite as good much less expensive than a wall. I have done my best to contract my remarks and yet to allow them being understood, which it is not always easy when reading about anything that is not previously known.—J. WITHERSPOON, *Chester-le-Street*.

SCOTTISH HORTICULTURAL ASSOCIATION.

The monthly meeting was held on the 3rd inst. at 5, St. Andrew Square, Edinburgh. There was a large attendance of members. The President occupied the chair. After the election and nomination of new members Mr. L. Dow read a paper on the kitchen garden, being the continuation of his former paper on this subject. He again urged upon the attention of young gardeners the great importance attaching to this part of their profession. The operations of the kitchen garden he described in a clear and lucid manner, such as trenching, manuring, and cropping, and detailed his system of cultivating the Cauliflower, Pea, Carrot, and Turnip. The various difficulties attending the Carrot crop on many soils were referred to; but to remove these obstacles in a great measure he approved of deep trenching and deep manuring, a dry bog being the soil best adapted for the growing of this vegetable. Mr. Dow also spoke of the shaws of Swedish Turnip as being a good substitute for Seakale, and strongly recommended it as being more economically and easily managed.

Mr. Robertson Munro next read a paper on "Hardy Spring Flowers," which included all those flowering from January 1st to May 1st. He spoke of the neglect by many gardeners of these beautiful flowers, and said that more time and interest spent upon some of the best kinds would well repay any extra labour given. It was one of the prettiest sights to see some of the rarer gems of this class of plants with their pure colours coming into flower when the ground was coated with snow and vegetation for the most part lying dormant. The cheery aspect they presented at this dull season was welcome to lovers of the beautiful. Mr. Munro then named the most popular kinds, and explained the treatment of those that required careful and particular cultivation. The following are some of the plants referred to—*Helleborus* sorts, *Snowdrops*, *Iris reticulata*, *Cyclamen* com and varieties, *Winter Aconites*, *Scillas*, *Sisyrinchiums*, *Leucojums*, *Hepaticas*,

Anemones, Myosotis, Crocuses, Daisies, Primula and varieties, Aubrietias, Saxifrages, Tulips, &c.

Messrs. Downie & Laird sent a nice pan for exhibition of the *Sibthorpia europæa variegata*. Messrs. Dickson & Co. exhibited two stands of cut blooms of *Chrysanthemums* containing sixty-three varieties which included all the favourite kinds, and a fine bloom of *Thunbergia laurifolia*. Mr. John Webster exhibited a new seedling Apple named *Beauty of Moray*, a culinary Apple, free bearer, and long keeper.

FRAUD AT THE LIVERPOOL SHOW.

YOUR reporter sent you a correct account of the above Show. Mr. Ollerhead in his letter in your contemporary only reported the black side, and left entirely out the notes taken in the early part of the day of the productions worthy of comment. We question very much if *Chrysanthemums* were ever shown in better condition, either in London or elsewhere, than those at St. George's Hall on the 20th of last month, either trained plants or cut blooms. All interested in the Exhibition are truly sorry that a solitary instance of unfair exhibiting should have occurred, and express their deep regret that fraudulent blooms were brought to the Exhibition. The young man in question is a good grower, and from what we saw of his blooms only a few days prior to the Show he was well able to stand his own ground in the contest without any such trickery.

To turn to another question, How came the Judges to pass such abnormal blooms and to give to them the first prize, and what is to be the guide for Judges? We are informed a stand of blooms (incurred varieties) with Fingal and Faust in the south of England would be disqualified; they are incurred varieties, and were two of the finest blooms in the Show. Judges should be able to know each individual flower, its conditions and its qualities, before the awards are made. The fraternity in this neighbourhood cannot all be regarded as capable of fraud and trickery.

The competition independent of the impostor's blooms was good, and even after the blooms had been put two and three in one Mr. Tunnington's were far superior, and I believe Mr. Ollerhead saw them before they were staged. We can point to Mr. Tunnington's and Mr. Elliott's blooms and others being shown honestly and fairly, and with such blooms the south-country growers were nowhere.

Liverpool as a *Chrysanthemum*-growing district is able to contest honestly and fairly with growers from any part.—
W. BARDNEY, *Norris Green, West Derby.*

AFTER what we have seen at Liverpool on the 20th of last month in regard to the judging of cut blooms of *Chrysanthemums* we do not wonder at Sir Henry Peek asking the question, "Who were the Judges?" We are also in doubt as to what are the points of merit to be considered before awarding a prize. Our ideas in judging *Roses* or *Chrysanthemums* are—first colour, second symmetry of form, third size of petal in relation to the variety, fourth and last size of bloom in relation to variety. Summing up these four points we think a correct decision may be given. Judging the blooms by the above test by a jury and calling four witnesses, we are then justified in condemning the awards of the Judges at Liverpool. We are quite at a loss to know on what principles the premier prize was awarded to the stand that in a few hours afterwards was disqualified by the Secretary and Committee. There was only one bloom in the whole twenty-four that bore the character of a *Chrysanthemum*. Whoever saw *Empress of India* grow in shape like a Pine Apple, or Queen of England like an Irish haycock, or Golden Beverley like a Globe Mangold, and Alfred Salter and Jardin des Plantes like the cones of *Picea nobilis*?

Mr. Ollerhead's letter referred to by Sir Henry Peek is a correct account as far as the fraudulent stand was concerned, but he does not give other exhibitors the credit of showing honestly. I was standing close by Mr. Ollerhead while the delinquent's stand was undergoing examination, and heard, as he must have done, the other exhibitors offer their stands to the Committee and Secretary for examination, which was objected to on the grounds that no protest had been lodged against them. Why, then, did Mr. Ollerhead not lodge a formal protest against other stands if he had a suspicion of the integrity of the blooms? I submit that as he did not do so he ought in justice to others to state plainly that his suspicion was limited to the disqualified stand. The letter as it stands conveys an unpleasant impression affecting the whole of the exhibitors.

As to who was the first to make the discovery of the fraudulent blooms it is difficult to say, but it is certain that many exhibitors were equally anxious that any unfair exhibiting should be officially denounced. It is certain that a lady who takes much interest in the cultivation of the *Chrysanthemum* hinted that there was something wrong early in the day; that, however, is a comparatively trivial matter. Of much greater importance is it that the public in this case must not infer that one black sheep infects the whole flock.

As was correctly stated in the Journal last week Mr. Roberts did not take first honours last year. In 1877 Mr. Tunnington was first, in 1876 Mr. Meerse, in 1875 Mr. Elliott, and I think Mr. Norrie was first in 1874.

If Mr. Ollerhead or any other southern *Chrysanthemum* grower has any suspicion about our honesty they have only to give us an invitation, and we will meet them in a friendly manner next year at any *Chrysanthemum* show out of London, or even in London, if they make their schedules more explicit and give us a list of names, so that we may know exactly what varieties to put in our stands.—ALLERTON.

SPECIAL reference having been made to the blooms that I exhibited at the above Show, and also of the proceedings I took against the first-prize blooms, I think it is only fair that I should have a say in the matter. The blooms were not staged until twenty minutes past twelve, the whole collectively in the different classes for competition numbering three hundred—viz., seven twenty-fours, two eighteens, six twelves, and four sixes, all incurred; to which may be added a stand of Japanese, not for competition, by Mr. Tunnington.

At a glance I could see that large blooms of no matter what quality were the aim of all exhibitors, and this I remarked to several bystanders, including the Secretary. The latter gentleman said, "Yes, we go in for size at Liverpool. One year we went in for neat compact blooms. I forget now who were the Judges, but there was a great deal of dissatisfaction about it, so we always stick to size now." I said at the time it was hardly fair; it was like putting overgrown Drumhead Cabbages against good useful kinds. Mr. Tunnington had shown me twelve of his blooms earlier in the day, and asked me the name of one he did not know, adding, "I suppose your blooms are double the size of these." "Oh, no," I replied, "my blooms are smaller than yours." When the first six stands were staged and he saw I had told him the truth, he said, "Well, now, how do you think we stand?" and Mr. Peerse, who staged next to me, also requested my opinion of his blooms. I glanced along the stands, which for the first-prize holder did not require much consideration. I told Mr. Tunnington he was first by a good few points, but Mr. Peerse I thought would be nowhere. He had a grand bloom of Barbara, but the others were all flown; some of them were so open they would have taken a fair-sized bloom of Mrs. G. Rundle to fill up their centres. I know Mr. Peerse must have felt much annoyed at my verdict, nevertheless it was my candid opinion, and, I added, they remind me of overgrown split Cabbages. Had they been full in the centres they would have been monsters. I believe Mr. Tunnington at this time was quite satisfied he would be first. The officials were busy clearing everybody out, when Mr. Wallis of Keele Hall wished to know which were mine. I pointed them out, adding, "They are no use; they go in for size here, quality seems entirely out of the question, and in that case I shall be nowhere." He replied, "They are an even lot, and very neat; I don't think I ever saw such a pretty lot. The others are too coarse." On leaving the Hall and in going down the steps I found I had not put my ticket on the stand, which I ran back with, and had another clear view of the blooms. It was then that I first noticed the small petals around the middle of Mr. Roberts's blooms, which had a very strange appearance. On my return I told Mr. Hinds I did not think much of those that were last staged, they seemed as though they had made a double growth and had a lot of small petals around the middle of them, which I could not understand. He said, "Well, it is curious the freaks and forms that Nature takes sometimes, and it is not always easy to account for them."

On our return at four o'clock we went to see who had the prizes, when to my unutterable astonishment Mr. Roberts was first with those ugly blooms. I at once expressed my opinion in the matter, and made the following notes:—"Class A, first prize Mr. F. Roberts. The only good bloom on the stand one of Gen. Slade; the others look as though a double growth had taken place, which is very conspicuous in the blooms of Queen of England,

Alfred Salter, Empress of India, and Golden Beverley by a whorl of small petals formed around the middle of the blooms. Such a stand not in the hunt." I put my pencil in one of the blooms for an examination, when I was politely told by a looker-on if I interfered with them blooms I should have my head punched. I need hardly say that I did not fear the threat, but only waited another opportunity. I expressed my opinion to many respecting the blooms that they were not genuine, but no one seemed to care to go into the matter until about six o'clock, when I examined three blooms, and strange to say I was again told by an on-looker that he had a good mind to punch my head!

Having satisfied myself as to the fraud that had been practised I at once took proper proceedings, wrote out the protest, and had an investigation in the Committee-room. It is only proper to say that I do not believe there were half a dozen present who were satisfied that the blooms were made up until after the investigation was commenced. Mr. Elliott, the third-prize holder, said in the Committee-room he did not think any of the blooms were made up; at the same moment, correcting himself, he said, "Yes, I am only suspicious of one bloom, and I don't know if this is made up." This shows how very little the thing had been looked into, as almost everyone present expressed a doubt. Even the Secretary when he took out the first bloom, shook it and said, "That's all right." "Oh! uncup it." Still it is all right. "Now remove that wool and wire." Still all right. "Now get hold of the top and bottom and draw gently;" but he took hold of the bottom and pushed up the stem, when to the astonishment of all present the top bloom went up like a parasol, leaving the second bloom in his hand, which caused great excitement, and a general cry of "Who would have believed it?" A hole was made in the centre of the bottom bloom and the stem of the top one drawn through it to appear as one. After several of the blooms had thus been dealt with I took out my pocket book and read my notes in the presence of everyone, and before the examination was over the remark was that my words had come true.

I was truly sorry for the officials of the Society. The Secretary said he would not on any account such a thing had taken place, as people would think that all Liverpool had taken part in it to get up the blooms to defeat those from a distance; but I hope and trust the supporters of the Society will take a better view of it, and display their determination to support the Society by contributing more largely to the funds, and enable them to offer better prizes, and to enforce justice by making a practice of uncupping a number of the blooms, so that merit may be given to whom merit is due. I most certainly blame the Judges very much for not having been more careful in making the awards and satisfying themselves that they were genuine blooms, and it is much to be hoped that such unprincipled practices will never again be adopted.

On referring to the rules it was found that Mr. Roberts had forfeited all claim to his prize money, and also could never again be allowed to compete in Liverpool. This is a truthful report of the whole affair, by one who was styled in the *Liverpool Daily Mercury* "a boasting man from the south." I suppose it was because he detected the fraud.—J. OLLERHEAD, *The Gardens, Wimbledon House, S.W.*

NOTES AND GLEANINGS.

IN a recent importation of Orchids Mr. Bull has had the good fortune to receive several plants of a PURE WHITE VARIETY of *LÆLIA ANCEPS*. One plant is now flowering, the flower being singularly chaste and beautiful. It has the same long bracts and broad petals of *L. anceps*, and every part of the flower, except a yellow blotch in the throat, is pure spotless white. The plant is dissimilar also in character from the species, having shorter pseudo-bulbs and leaves, the former being very pale in colour and not tinged as in *L. anceps*. The new acquisition will probably be named *Lælia anceps alba*—a simple expressive name appropriate to a flower so simply and charmingly attractive. This new *Lælia*, as Mr. Bull suggests, holds the same relative position to the species as does *Lapageria alba* to *L. rosea*, or *Cattleya Skinneri alba* to its species. The white *Lælia* is certainly equally distinct, and cannot fail to become highly popular.

—THE fixture of the first Committee Meeting of the ROYAL HORTICULTURAL SOCIETY was stated on page 408 as January 4th; it should have been January 14th. It is the more necessary to make this correction, as we perceive the error has been also circulated by some of our contemporaries.

—WE are informed that the fifth annual Exhibition of the RICHMOND HORTICULTURAL SOCIETY has been fixed for Thursday, June 26th, 1879, and a Chrysanthemum show is contemplated to be held in the autumn of next year.

—AT the next meeting of the Fruit and Floral Committees, South Kensington, Messrs. Charles Lee & Son will exhibit a very interesting collection of HARDY EVERGREEN and VARIEGATED-LEAVED PLANTS. Mr. Gilbert, Burghley, will again exhibit his new double Primulas, and Mr. Gardiner will send a large collection of Apples from Eaitington Park.

—MR. GEORGE HUMPHRIES, Kingston Langley, Chippenham, gives his experience in reply to "W. H. J." on STRIKING BRIAR CUTTINGS. In November he selects well-ripened shoots of Briars from the hedges, and makes them in the same way that Manetti cuttings are made, and plants them 9 inches apart in rows 2 feet asunder. In the following August he has good stocks for budding, and then inserts the buds on the main stem as near the base as possible.

—WE have received the schedules of the spring Shows of the ROYAL BOTANIC SOCIETY. In the first Show, March 26th, 1879, we observe that the class for six stove or greenhouse forced herbaceous is withdrawn, the exhibits in the class not having been satisfactory, and a class is added for Amaryllises. The only alteration in the second show, April 23rd, is the withdrawal of the amateurs' Auricula class of six plants, a slight addition being made to the prizes in the open class of twelve plants. With the exceptions named the arrangements of the schedules and the prizes offered are practically the same as last year.

—WE record with extreme regret the DEATH OF MRS BASS, wife of Mr. Abram Bass, which occurred at Moat Bank, Burton-on-Trent, on the 26th ult. in her sixty-third year. The gardens at Moat Bank, and the fine orchard house there, were described on page 116, vol. xxx. of this Journal, and from that description we extract the following pertaining to Mrs. Bass:—"All the trees in this house are in the first condition of health and fruitfulness, and they are in the sole charge of Mr. and Mrs. Bass, who train, prune, pinch, and water them. The orchard house is their recreation ground—their 'hobby'; their pleasure is to grow and give—a delightful, wholesome, healthy life. Mrs. Bass is a pomologist who can hold refreshing converse on the subject which she practises so successfully. The modes of pruning and pinching of the fruit of English and continental growers are familiar to her 'as a tale of love.' Her work is indeed a work of love—love guided by skill and crowned with success." We never met a lady possessing a greater technical and practical knowledge of fruits, nor one who more completely adorned a home and garden than her whose death is fittingly recorded in these pages, which in life afforded her so much delight.

—THE annual rainfall of Cyprus according to the Scottish Meteorological Society is about 14 inches, nearly the whole of which falls from November to April, notably in November and December; no rain falls in June, July, and August, and but in trifling amounts occurring rarely in May and September. There are thus practically five rainless months in the year in Cyprus. Comparing it with the coast of Syria opposite its winters are milder and its summers cooler. The coldest month is February, with a mean temperature of 52° 8', being about equal to that of London in the middle of May, and that the mean temperature of August is nearly as high as that of July, both being about 81°, which is approximately the summer temperature of Algiers, Alexandria, Athens, and Constantinople. During these four years the highest recorded temperature of any of the months was 96°, except June, 1869, when from the 21st to the 24th the mean temperature at Alethriko, three miles and a half inland from Larnaka, reached 95° 5', being about the average summer temperature of the Punjab, rising on one of these days to a maximum of 103°. On the same day the temperature rose to 100° at Larnaka, and to 103° 5' at Jerusalem, 2500 feet above the sea, the period being characterised as one of unprecedented heat and drought over the whole of the regions bordering on the Levant.—(Nature.)

—RECOGNISING the importance of VEGETABLE AND FRUIT CULTURE the Council of the Royal Agricultural Society have announced their intention of awarding prizes in connection with their great Exhibition, to be held in London next year, for market gardens. Prizes of £50, £25, and £10 are provided for market gardens not exceeding fifty acres in extent within a radius of twenty miles from Charing Cross,

similar amounts being offered for garden farms exceeding fifty acres. Prizes of the same amounts are also provided for farms not exceeding one hundred acres in extent where garden and agricultural crops are combined, situated within a radius of within fifty miles of the Mansion House. This is a step in the right direction, for no class of cultivators merit official recognition more than those who supply the great markets with wholesome and necessary food of the nature indicated.

— THE schedule of the NEWCASTLE-UPON-TYNE SPRING SHOW (April 9th and 10th) has reached us. It is comprehensive and well arranged in three divisions :—1, open to all ; 2, open to all except nurserymen ; 3, open to amateurs (not professional gardeners) only. There are no entrance fees in any division, and the prizes throughout the schedule are liberal without being extravagant. We note a great improvement in the wording of the chief class for Hyacinths, in which £11 is offered in four prizes. Last year the condition was "thirty-six Hyacinths, three bulbs in a 7-inch pot." This year the prizes are for "twenty-four Hyacinths, singly in pots, not less than twelve varieties." Tulips last year were shown six in a pot ; this year the number is reduced to three bulbs. There is a great increase in the Auricula classes. Last year there was only one ; this year there are five. The total number of classes is ninety-two, and the amount offered in prizes exceeds £174. A great and good show is anticipated. Messrs. Taylor and French remain the Honorary Secretaries, and Mr. Gillespie the acting Secretary, and a more competent trio it would be difficult to find.

— IN the report of Messrs. Sutton & Sons' Root Show CAPSICUM PRINCE OF WALES was incidentally mentioned as contributing to the attractive appearance of the tables. The plants as grown by Mr. Wildsmith demand more particular notice. They were dwarf standards, having stems about 18 inches in height, and compactly-formed heads about 9 inches to a foot in diameter. They were heavily laden with bright scarlet fruit, which was set off to advantage by healthy green foliage. The plants were in 6-inch pots, and had, we believe, been plunged in a warm position in the open air for some time during the summer. Plants so short-jointed and heavily fruited as these were could not have been produced under glass in a heated structure. They were admirably grown and remarkably ornamental.

— WE are glad to learn that the NATIONAL CARNATION AND PICOTEE SOCIETY and the NATIONAL AURICULA SOCIETY are in a flourishing state, the Treasurer of the former having a balance in hand of £7 4s. 1d., and of the latter £13 4s. 7d. The Auricula Show, we believe, is fixed for April 22nd, and the Carnation and Picotee Show on July 22nd, both shows to be held in the Royal Horticultural Society's Gardens at South Kensington. We presume the above information is correct, as it has not been officially communicated to us.

— OUR correspondent "W. J. M." informs us that from 12° to 16° of frost have been recently registered in Tipperary, and that Chrysanthemums in an unheated orchard house have been despoiled of their beauty. Much injury has also been done to Cinerarias and bedding plants owing to the suddenness and unusual severity of the frost so early in the season.

— WE have received from Mr. Christison, gardener to R. O. White, Esq., The Priory, Lewisham, a very fine truss of *LAPAGERIA ROSEA* containing eleven richly coloured flowers. It was cut from a plant planted out under one of the stages in a span-roofed greenhouse, and trained to a trellis upon the roof. We have seen equally fine, even finer, trusses, yet the one sent is noteworthy and very beautiful. We noticed a truss of the charming white-flowering variety in Messrs. Veitch's nursery a short time ago with twelve flowers. These are two of the most valuable plants which Messrs. Veitch have ever introduced into this country.

— THE gardener above mentioned also sends us a flower of *ONCIDIUM UNGULATUM* with the following note :—"This beautiful Orchid is not grown nearly so much as it ought to be, considering the time of year it flowers and the length of time the flowers last after opening. The flower which I enclose for your inspection has been open over five weeks. The plant was imported last spring, it started into growth early, made a fine pseudo-bulb during the summer, and early in September began throwing up the flower spike, which at the present time has attained the length of 5 feet 4 inches, with four side branches from the spike about 14 to 16 inches

in length each. It has not finished growing yet, as there are several flowers to open." The labellum is a quarter of an inch in diameter ; colour bright primrose, the sepals being pale chestnut marbled with greenish white. It has a delicate primrose perfume.

— WHEN visiting the nurseries of MESSRS. SUTTON AND SONS AT READING recently we observed a new *Primula* of striking colour and undoubted merit named Ruby King. The flowers are very large, admirably formed, and of great substance. They are also quite distinct in colour and very rich—a glowing purplish crimson with orange centre. The plant is of dwarf yet robust habit, and the flower trusses are produced just above, almost resting on, ample dark green foliage. Amongst a very fine collection of superior varieties of *Primulas* Ruby King arrested attention. It is a great acquisition, and a valuable addition to an important family of plants.

— MR. BROTHERSTON communicates the following note on *JULIE LAGRAVIERE CHRYSANTHEMUM* :—"It is the most serviceable plant we have for supplying dark-coloured flowers at this season. We have many plants of this variety, each producing dozens of deep crimson blooms, which last good in rooms for nine or ten days, and then do service amongst the servants. How are they grown ? Merely struck late in a mild heat, hardened off in the cutting pots, and planted from thence in April into a border in the kitchen garden. Staking to secure them from breakage by winds is all the attention bestowed during summer. They are lifted with other serviceable varieties in October, and again planted out in a Peach house, and at the foot of walls wherever there is space ; and there for three months, the dearest in the year, they supply their lovely flowers in galore."

MANETTI VERSUS SEEDLING BRIAR.

WHILE the above subject is being discussed it would be well if the following point could be settled : When budded and bearing a Rose tree, how is the one stock to be distinguished from the other ?

A short time since I saw Roses upon seedling Briar offered for sale in the Journal, and bought a quantity of them. When they came to hand I sent some of them to a gentleman who is one of your contributors, and who has cultivated Roses for many years, and he pronounced them to be upon Manettis, not seedling Briars. On writing to the seller he denied this, saying he had not had fifty Manetti Roses in his possession, and affirming that his Roses were all worked upon seedling Briars or rooted Briar cuttings.

There are thus two points at issue which might, I think, profitably be discussed, and upon which I should like to be informed—viz., how can a Manetti-stocked Rose be distinguished from one on seedling Briar ? and is a Rose upon a rooted Briar cutting as valuable as one upon a seedling Briar ?

—A PERPLEXED ONE.

HEADINGTON HILL HALL,

THE SEAT OF G. H. MORRELL, ESQ.

NEAR to the good city of Oxford is Headington Hill Hall, a stately building massive and rich in architectural embellishments. It occupies a commanding position in the centre of gardens tasteful in design and exceedingly well kept. The well-timbered grounds are traversed by carriage drives from the two ornamental entrances termed the lower and upper lodges, erected at different points in the boundary walls, the open ironwork of the gates affording the passer-by something more than a glimpse of the ornate interior. Although worthy of admiration for itself alone, Headington Hill Hall may also be regarded as a noble adjunct to the stately old city, which abounds with many grand structures which by their quiet dignity impress the mind so forcibly as to render it somewhat fastidious and not easily pleased with less imposing sights.

It was with some such impressions that I went to inspect Mr. Morrell's gardens, and so was somewhat more than usually disposed to be severely critical. I was pleased, as there was ample reason to be, for I found much to admire and little if anything to condemn. From the lower or Oxford lodge a boldly sweeping carriage drive leads to the dressed grounds and the house, as represented in the engraving (fig. 68). A pleasing expanse of lawn, well broken but not crowded with shrub groups and trees, ascends gently to terraces on the south and west fronts, the ground from thence rising abruptly—a steep Laurel-clad bank—to a much higher level, which imparts an

agreeable character to the grounds, and affords valuable shelter to the terrace gardens.

The south or Holly terrace is semicircular in outline. It is entirely filled with flower beds on turf of a novel and pleasing design, simple yet elegant. The outer bed describes a bold semicircle marking the outline of the terrace sweeping round into curved ends which join the inner lines—an alternating series of flat curves and small semicircles projecting inwards, and each containing a specimen Holly, of which there are six. This large bed is the key of the design, which in reality contains only two other large beds with half a dozen intervening circles. In the centre is a Pampas Grass, and at either end a Wellingtonia—a trifle formal, but necessarily so, yet ample relief is afforded by the lawn sloping gently down among shrubs and fine old Elms. Through these an occasional church spire comes into view with an undulating range of hills in the far distance. The whole of the beds were planted with Viola

cornuta in variety, all flourishing and full of bloom, affording a charming display of this popular flower. An air of elegance pervaded this part of the garden in a manner not at all common to terraces, which are generally too full of straight lines and harsh angles to harmonise with surrounding objects.

The west front has a garden of more formal tone—a series of abrupt slopes and levels—yet nevertheless in perfect keeping with the steep bank on the upper side of it. A fountain and stone basin occupy the centre, and the numerous beds contained pretty and well-wrought devices in carpet bedding. From the top of the high bank, to which we ascend by a flight of steps, the view over Oxford is very fine. A lawn with enclosing shrub borders sweeps pleasantly onwards to the upper entrance lodge, the carriage drive being remarkable for its easy well-formed curves, and the skilful way in which the lawn is made to ascend from it to rising ground on either hand. An avenue of Cedrus Deodara, [through which this



Fig. 68.—HEADINGTON HILL HALL.

drive runs, is in a flourishing condition, and will one day be a fine feature. It and the numerous other Conifers and shrubs were planted by Mr. W. H. Baxter, Curator of the Oxford Botanic Gardens, who laid out Mr. Morrell's gardens, and who has published a valuable descriptive list of nearly two hundred sorts of the trees and shrubs which adorn the grounds.

The kitchen garden and glass houses have hitherto been separated from the pleasure grounds by the public road which intersects the estate. An elegant bridge, however, has lately been constructed, so that in future the principal path to the kitchen garden will run over this bridge and through extensive new pleasure grounds in course of formation. It will thus be seen that improvements of an important character are in progress; and although already so worthy to be termed a fine place, much remains to be done before the whole is finished and thoroughly connected.

Some four acres of rich light soil constitute the kitchen garden, yielding an ample supply of vegetables with thriving fruit trees mostly cone-shaped, and forming avenues along the paths. Some lofty vineries contained good crops, the Grapes being well coloured, large in bunch and berry, and the growth healthy and vigorous. Mr. Phillips the gardener is evidently a master in the culture of Grapes. A lot of young Muscats had magnificent canes, and were from cuttings made in Febru-

ary, 1877, the Vines being rooted and planted out in the border in June that year, cut back in the autumn, and making growth this year, that will yield a noble crop of fruit next season. Peaches were also abundant and fine under glass; so, too, were Strawberries in pots, the sort being President, high feeding being practised, and only eight berries being left to swell on each plant—a much more sensible plan than that of leaving a host of little berries hardly any of which prove fit for table.

The interior of a house devoted to the culture of stove plants presented an appearance totally different to the usual stereotyped arrangement of stages and pits. From end to end of the house is a serpentine path, describing a series of graceful curves around the base of mounds of earth alternating from back to front. Nothing could be better. It was a veritable tropical flower garden, the mounds forming the beds in which pots may be plunged; or, better still, the plants turned out into the soil, and the roots let ramble so as to induce a much more luxuriant growth than the confined space of a pot ever can afford. Then, too, what a charming fringe of exotic Mosses, Ferns, and tropical trailers may be had on either side of the path.

Good taste prevails here, and suggests that the remedy for formality is in our own hands. By such an arrangement as

this house affords we may impart an air of elegance, and at the same time avoid the considerable outlay which the construction of pit, walls, and staging necessarily involves.—
EDWARD LUCKHURST.

OUR BORDER FLOWERS—MEADOW RUE.

WHILE so much interest is taken in plants for outdoor decorative purposes, especially choice border plants, I have thought it somewhat surprising that the Meadow Rues have so long escaped attention. Perhaps these plants may be thought too common for choice positions; be it so, yet nevertheless they have their charms. There is something pleasing, and graceful too, in their Fern-like appearance when associated with other plants of more brilliant hues. My idea is that no collection of border flowers approaches perfection without an admixture of Meadow Rues. They are a numerous and widely distributed family, and ought no longer to remain in the background, but should find their way to every rockery and border of any pretensions where such plants are cultivated. They vary in stature from a few inches in height to as many feet. The taller-growing kinds are very well adapted to large borders and open spaces in the shrubbery and other semi-wild places. The Columbine-leaved Meadow Rue (*Thalictrum aquilegifolium*) is a grand old border plant which lasts a long time in bloom, but is seldom met with in cultivation. *T. flavum* is of somewhat deeper colour; a very pretty border flower, the more interesting by its being one of our own. *T. glaucum*, *elatum*, *dioicum*, and others might be named that are worthy of the attention of cultivators. *Thalictrum anemonoides flore-pleno* is a very choice plant; it loves moisture, but not stagnant soil, and is all the better for having partial shade. It is well adapted for the rockery. *Thalictrum minus* is the most interesting of the family. Some day it may be seen doing good service as an edging plant; it needs only to be seen in that position, and then interest will be taken in its cultivation. It is useful, too, as a pot plant, having the appearance of an *Adiantum*.

Thalictrums thrive in ordinary garden soil, but all the better if a sprinkling of lime rubbish and well-decomposed vegetable matter and coarse grit are mixed in the compost. They are best increased by division after flowering; they may also be increased by seed sown in the spring in light sandy soil in a shaded situation. When the seedlings are large enough plant them out where they are intended to remain; when established they last many years.—VERITAS.

WINTERING PLANTS—DAMPING-OFF.

THE damping-off to which plants and flowers are so liable during the winter months is simply the result of injudicious treatment. Such popular plants as the Chinese Primula and the Cyclamen may be taken as illustrative subjects. These two plants are considered by many who cultivate them as difficult to manage, and as requiring special care in the matter of watering, more particularly throughout the winter months. It is during the close of the year, when the cold of winter is in some degree presented to us, that decay is first noticed on these plants, and when precautionary measures are first considered necessary and acted on.

I have had my share of trouble with those plants during the winter, having had to deplore specimens of the former which would, notwithstanding all care, sever connections 'twixt top and root, and in the case of the latter have had leaf after leaf and flower stalk after flower stalk decay, leaving the parent corm crownless. I have also enjoyed a good share of success in growing the plants referred to. I am in a position, therefore, not only to sympathise with any who are in difficulty but can point out a remedy for the damping.

But what is the cause of damping, and what the remedy? Some conclude that potting the plants too low is a primary cause of the evil complained of, and that watering induces damping-off, and consequently that keeping the plants with the base of their stems elevated sufficiently above the soil so as to secure them from contact with water is the remedy. Others consider attention to keeping the roots in a half-dry medium the best preventive, whilst a moist condition of the soil is a sure cause of the affection. Though I am not prepared to say these points of culture may not be in some degree good, they yet neither suggest the real cause of the plants damping off nor afford a true remedy.

Both Primulas and Cyclamens are here potted low, are kept moist at the roots, and yet the plants do not damp off. The

very simple means taken to secure success is to treat them throughout the winter as growing plants from countries favoured with a warmer climate than that of a cold pit. Unless the plants are kept in a growing condition with sufficient heat, plenty of light, and no stint of water, no matter how much care may in other respects be taken, the best results must be unattainable in their cultivation.

The particular degree of temperature must be left to circumstances, as I find the kind of structure the plants are grown in determines this to a great extent. In a pit where they can be placed with their heads 9 inches from the glass a minimum of 50° and a maximum of 55° will be sufficient. In a structure where the conditions with regard to light and air are not so good a higher temperature is necessary. Under such conditions the roots are preserved in a state of continued activity throughout the winter, the assimilating powers of the leaves are not interfered with, and as a consequence the plants continue to thrive.

The same general remarks apply to any plants wanted to flower during the winter season. *Bouvardias*, for instance, in a too low temperature lose both foliage and flowers, whilst in such a temperature as just quoted the plants thrive perfectly. *Geraniums*, *Abutilons*, *Heliotropes*, *Callas*, and other plants which will do well out of doors till late in the season, some of them even being proof against a few degrees of frost, all require a growing temperature to induce them to flower during winter.

Precisely the same remarks apply to bedding plants or others which are kept through the winter merely for stock. Unless they are kept in a somewhat active state of growth it is impossible to winter them with the same degree of success, either in regard to the quantity kept alive or the state of the plants for propagating purposes in spring. Of course there are plants which cannot be kept too cool during winter. *Cinerarias* and herbaceous *Calceolarias* may be mentioned as instances of this, *Pansies* and shrubby *Calceolarias* also; but in order to winter or grow these with the greatest amount of success moisture at root and plenty of light are just as much required as in the case of those plants which require heat.

The only safe practice with regard to plants which make growth or flower during winter is to keep them "moving." Stagnation results in decay and death.—R. P. BROTHERSTON, *Tynninghame*.

WORK FOR THE WEEK.

FLOWER GARDEN.

BEYOND the constant work of sweeping, rolling, &c., that the season entails little remains to be done in this department, provided the work as treated of in former calendars has been well advanced. There is little to attract attention in the herbaceous borders now, yet there is considerable risk at this time of year in digging those borders, especially where the positions of all plants and bulbs are not indicated by stout hardwood pegs placed near them. In the case of bulbs and such plants as are well known this method of indication answers very well, yet it adds much to the study and interest of plants to have them properly named. See, therefore, that any pegs or labels becoming rotten or have the names illegible be renewed. The borders should be made neat, loosening the surface if it has become very firm, and giving at a convenient opportunity a top-dressing of decayed manure or leaf soil, which will both enrich the soil and form a protection for the plants against the severity of the weather. Slugs are often troublesome; a sprinkling of quicklime or soot prior to the surface-dressing will do much to check their depredations. Rats and mice, the latter particularly, commit much mischief in a short time among bulbs when once they find them out; hence the necessity of keeping a sharp look-out and promptly trapping the marauders. We find small steel traps baited with cheese prompt killers.

Protecting Plants.—*Pyrethrums*, *Delphiniums*, &c., liable to have the crowns preyed upon by slugs should have the soil taken out about them, a sprinkling of quicklime or soot given, and the openings filled up with sifted ashes. Before severe weather sets in plants of doubtful hardiness should receive the needful protection. A few leaves with bracken over them placed around the crowns, and a few Laurel or evergreen branches thrust into the ground to keep them from blowing about, will afford sufficient protection to such plants as *Bambusas*, *Aralias*, *Phoriums*, *Chamaerops Fortunei*, *Gynierum argenteum*, &c. Plants on walls of doubtful hardiness, such as *Edwardsias*, *Ceanothus*, *Magnolias*, *Myrtles*, &c., are best protected by mats in severe weather, double mats being usually sufficient protection from the severest frosts. Beds of *Roses* should be well protected with litter, which is generally sufficient for *Perpetuals*, but *Teas* and *Chinas* should have some evergreen branches stuck amongst them in severe weather; but with the roots protected it is astonishing what an amount of

cold plants will bear. In heavy soils the Teas may be lifted, potted, and plunged in ashes in a cold pit, where they can have protection in severe weather, planting them out the following April. Belladonna Lilies should have some partially decayed leaves placed over and around the crowns, as the bulbs have a tendency to come near the surface, and if not protected are injured or killed by frost. With good drainage, a warm situation, and protection from frost these are the finest of autumn flowers, flowering splendidly. Crinums and similar plants are the better of a protection of leaves, with a few evergreen branches to keep them in position. Lobelias of the herbaceous class may have the roots lifted, potted, and wintered in a cold pit, or have a mulch over the roots of partially decayed leaves. Carnations, &c., are much preyed upon by slugs: dusting soot about and over the plants will keep the pests in check. Plants in pots in frames should have air whenever the weather is favourable, with no more water than to keep the foliage fresh, affording the protection of mats over the lights in severe weather.

HARDY FRUIT GARDEN.

The pruning and nailing or tying of Cherry, Pear, and Plum trees against walls as well as espaliers should be proceeded with whenever the weather is favourable; also the pruning, &c., of Apricot, Peach, and Nectarine trees, which is generally deferred until early spring or until danger from severe frost is past. Unless the wood be unripe there is no danger whatever to be apprehended from frost; indeed, with the wood in good condition we prefer to prune in early winter, when there is less sap in the growths, than in early spring when the sap is active from the swelling buds. But whether the trees are pruned or not now they should be unnailed or cut loose, the branches and such shoots as require it being merely secured to the wall or wires loosely so as to prevent scrubbing by winds.

The Raspberry.—This is one of the most useful fruits. The canes of the current year should be thinned out, leaving from four to six of the strongest to each stool, selecting, of course, the best placed, and securing them to stakes. We use tarred string for this purpose, and then cut back the canes to the height required; but in some instances, as that of very strong unripe canes and in cold localities, shortening may be deferred until spring. Various modes are adopted of cultivating the Raspberry, all of which, it may be said, have under certain circumstances their respective advantages. All agree in planting in deeply trenched highly manured ground. Some plant the canes in lines 6 feet apart and 4 feet from plant to plant, but in poor soils less distance may be allowed. Some secure the canes to stout stakes about 4 to 5 feet in height, cutting the canes back so as to correspond with the stakes. Some plant or tie the canes together, dispensing with the stakes. Some tie the ends of one set of canes to the other or next set of canes in the line, so as to form an arch of the bearing canes with or without a stake in the centre of the arched canes; others secure the canes to rails in the form of espaliers; and others, again, merely thin out the canes and shorten them, running a line of string or wire around the plantation to support the outside canes. Any of the above plans answer. Manure liberally, pointing it in lightly near the stools deeper in the spaces between the lines. In light soils surface-digging is not desirable.

Fig trees in the open air if left unprotected suffer in a severe winter, sometimes being seriously if not fatally injured. Trees trained to walls may be unfastened, the branches tied up in bundles, which should be encased in clean straw or dry fern and made secure with mats. Some leave the trees on the walls and thatch them with straw or fern and cover with mats: the bundle plan is preferable. The border up to the stems should be well mulched with partially decayed manure or litter. The spaces between the rows and plants of Strawberries should, if not already done, have a mulch of partially decayed manure, employing it rather littery for such varieties as British Queen, that are the better for having slight protection.

FRUIT HOUSES.

Pines.—Considerable skill and skill are required to maintain with limited means a successional supply of ripe Pine Apples throughout the year. The cultivator with his hundreds of successions may do so readily enough, but the unenviable gardener with his tens or twenties is often at his wit's end to act so as to have fruit at the right time. Where a supply of ripe fruit is required in May and June, and plants are not showing fruit, it will be desirable to select from the plants started last March, which have completed a stout growth and are now in a state of rest, such as show the best indications of starting into fruit when subjected to a higher temperature both at the roots and atmosphere. If the plants may not be accommodated in a structure to themselves they should have a light position in the house where the fruiterers are swelling off. It is not wise to start more plants at this season than is absolutely necessary, as the fruit will come up more readily a month hence and be much stronger. Continue former instructions as to temperature, &c., but in very severe weather a fall of a few degrees in the temperature is preferable to extra sharp firing, and wherever practicable a covering placed on the glass at such times will be desirable, being a saving of fuel and better for the health of the plants.

Cucumbers.—The winter fruiterers will be showing plenty of fruit. Unless the plants are extra strong two-thirds of the fruit should be removed, removing also the male blossoms and tendrils, also any superfluous shoots and bad leaves; but do not stop the growing points overmuch for the next few weeks, affording water moderately—a supply twice a week will suffice. Plants, of course, growing in pots or boxes will require water oftener, with liquid manure occasionally. A night temperature of 70° to 65° in severe weather, 60° as a minimum, 70° to 75° by day, advancing to 80° or 85° with sun, will be suitable. The plants will require moderate earthing from time to time, taking care that the soil has previously been warmed; press it tolerably firm but not very hard. The bottom heat should be kept steady at about 80°. Atmospheric moisture will require to be moderate, damping only on bright mornings or early in the afternoon. If a night covering be afforded of mats or frigi domo to the glass it will be highly advantageous, but it must not remain on by day to the exclusion of light, every ray of which the plants must have. Remove old foliage and exhausted growths from the autumn fruiterers, but do not overstop the growing points, avoiding overcrowding and especially overcropping. Fertilise the female blossoms during a continuance of dull sunless weather.

PLANT HOUSES.

Orchids.—This being the most inactive period in the growth of these plants, employ no more fire heat than is necessary to keep the temperature at 65° by day, 60° or a little less by night for the East India house; 55° to 60° by day and 50° at night in the Mexican house; and the cool house 50° by day and 45° at night, allowing a few degrees rise in each case from sun heat. Very little air is now required, but no opportunity should be lost of sweetening the atmosphere. Nothing contributes more to this than sponging the inside of the glass once a week, which secures to the plants all the light possible. Attention must be paid to the atmosphere, sprinkling water over the shelves and paths every morning. Sphagnum and roots outside the pots or baskets will require frequent dampings, especially such plants as *Aërides*, *Phalænopsis*, *Saccolabiums*, and *Vandas*. Although *Cattleyas* and *Lælias* root freely at this time, they require very little water at the roots. The peat employed for potting them should be of a description to allow the water to pass away freely. *Cypripediums* and *Cymbidium*s require a good supply of water at the roots. Any *Dendrobium*s required to be retarded for flowering until May should be placed in a greenhouse temperature. Very little water—probably none—will be required until they begin to grow, when they should be removed to a warm house, as any check they may receive at that stage is followed by abortion or stunted growth. *Odontoglossums* should never be allowed to become dry. They delight in a cool damp atmosphere. Afford a light sprinkling overhead on fine mornings; though these plants like moisture they are impatient of drip. Woodlice, cockroaches, and crickets are sometimes troublesome, having a particular relish for the flower spikes. Poison should be kept about the house, and a keen look-out kept after dark with a lantern for slugs, potato baits being set for woodlice. A supply of peat should be got in, also sphagnum, picking all the rubbish out of it; and if spread upon a damp floor it will keep fresh for weeks, it being desirable to use it in as fresh a state as possible. Baskets may also be made, everything needed in potting or basketing, the plants being held in readiness for use at the time required.

TRADE CATALOGUES RECEIVED.

William Barron & Sons, Elvaston Nurseries, Borrowash, Derby.—*Trade List of Coniferae, and Descriptive Catalogue of Ornamental Shrubs.*

Robert Mack & Son, Catterick Bridge, Yorkshire.—*Catalogue of General Nursery Stock.*

Richard Dean, Ealing, London, W.—*Catalogue of Hardy Spring Flowers and List of Potatoes.*

Osborn & Sons, Fulham.—*Catalogue of Hardy Trees, Shrubs, &c.* Galloway & Graham, 138, Queen Street, Glasgow.—*Catalogue of Gladioluses.*

Ferdinand Julkes' Successors, Erfurt, and 50, Great Russell Street, London.—*Trade List of Flower and Tree Seeds.*

Louis Van Houtte, The Royal Nursery, Ghent, Belgium.—*Catalogue of Gesneriaceae and other Tuberous-rooted Plants.*

TO CORRESPONDENTS.

** All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense. Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (M. Unwin).—A small manual, "Fruit Gardening for the Many," published at this office, post free 5d., will afford you sound and useful information. *The Journal of Horticulture* is 3s. 9d. per quarter, free by post.

BRIAR CUTTINGS (J. S.).—It is fully late now to insert Briar cuttings, but if the weather continues mild you may try them. Select well-ripened shoots of the current year's growth from the hedgerows. Make the cuttings about a foot in length, carefully removing all the eyes except three or four at the top, and let the base of each cutting be cut transversely and smoothly close under a joint or removed bud. Insert the cuttings firmly about 9 inches apart in rows 2 feet asunder, and draw some soil to them after the manner of earthing Potatoes, only allowing the portion with eyes to be above the soil. When growing freely in August level down the ridges and insert one bud in the side of each rooted Briar as near to the ground as possible. The bark usually parts from the wood freely where it has been covered with soil. We have found the cuttings strike freely when inserted during October and November.

BRITISH WILD FLOWERS (Z. Y. P.).—We publish a work so entitled—plates coloured. Ten volumes are completed, price 23s. 6d. each, each volume containing eighty plates. You can have them at our office. A number is published monthly, price 1s., containing four plates, with full descriptions.

TREES FOR ESPALIERS (Orchard).—Green Gage and Purple Gage Plums; Early Harvest, Kerry Pippin, Gravenstein, and Blenheim Pippin Apples; Williams' Bon Chrétien, Fondante d'Automne, Marie Louise, and Winter Nelis Pears. If you mean by tile-planting paving under the stations, that will very much depend on the nature of your soil.

STEAM versus HOT-WATER HEATING (W. M. G.).—Heating by hot water is cheaper, safer, and healthier than heating by steam. Cheaper, because no appreciable amount of steam is produced until the water is heated to 212°, and consequently a great amount of fuel is expended before steam is produced, which otherwise would have been turned to valuable account if the hot-water mode of heating were adopted; safer, because no accident can happen with heating by hot water as applied by hot-water engineers, but there is no absolute immunity from accident in the case of heating by steam; healthier, because a highly heated surface of 212° is far more pernicious to human beings or plants than a surface less highly heated. In heating by steam the maximum temperature must always be produced let the weather be what it may; but in the case of hot water the surface of the pipes can be heated to any degree required according to circumstances. If a sufficient amount of piping is provided the requisite amount of heat can usually be produced in churches and forcing houses without the water boiling at all. Thus the saving of fuel in comparison with heating by steam is incontestable.

BOILER DRAUGHT (S. O. J.).—Six inches is not too wide for the side flues of a saddle boiler, but the depth of such flues is often considerable with a view to expose as much of the boiler surface to the action of the heat passing along the flues. Nine inches depth of flue is ample. Too much is expected from side and top flues. We can only attribute the want of draught in your apparatus to some undue contraction in the flues, or depressions with probably too contracted an ashpit, air not being supplied in quantity to maintain rapid combustion.

SOWING LILICUM AURUM SEED (W. M.).—The seed ripens perfectly well in this country, and should now be sown in pots or pans well drained, employing turfy loam and leaf soil or peat in equal proportions, with about a sixth of sand. The seeds should be sown rather thinly and be covered about a quarter of an inch deep with fine soil, placing the pots in a greenhouse and keeping the soil regularly moist. The plants will flower about the third year if they are well cultivated.

EUCHARIS AMAZONICA (Idem).—The plants may be had in flower at any period of the year, it being necessary to secure a good growth, and when that is complete to place the plants in a house with a temperature of 50° to 55°, affording water only to prevent flagging. With from six to eight weeks of cool treatment they may be had in flower in about four to six weeks afterwards by placing them in a brisk moist heat of 65° to 70° at night and 70° to 75° by day, and more certainly with bottom heat of 80° to 85°. The plants do best under rather than over-potted, but if large plants are wanted they may be shifted about once a year, and preferably early in the year. The "Cottage Gardener's Dictionary" is 6s. 6d., post free 7s. 3d.

FRUIT TREES ON A WOODEN FENCE (Amateur).—If the gas tar is thoroughly absorbed into the boards it will do the trees no harm; and although it will become very hot on bright days till covered with growth, yet afterwards the foliage will prevent that, and therefore a change of colour is uncalled for.

DISSOLVED BONES FOR GARDEN CROPS (Idem).—Bones dissolved in sulphuric acid form superphosphate of lime—a most valuable manure, extremely soluble, and therefore soon taken up by plants. It may be applied as a top-dressing to permanent crops, such as Strawberries and Asparagus, at the rate of 10 lbs. to a square perch, or about 14 cwt. to an acre, early in spring, and also sown broadcast and worked-in with hoes among Onions, Turnips, Cabbages, Lettuces, and in fact all garden crops.

CULTURE OF PHAIUS (Rus).—These are terrestrial Orchids, all of easy culture. Pot them in spring, just before growth commences, in well-drained pots in soil consisting of equal parts of fibrous peat, turfy loam, old hotbed manure, and silver sand, taking care not to elevate the plants on a mound, but to keep the soil level and well below the rim. Place them in a night temperature of 65°, rising to 70° by day, and increasing to 75° and 80° as the days lengthen. Water them well during growth, and afterwards remove them to a cool house till October, giving very little water. In November they again require a lively temperature and an increasing supply of water, by which means they may be had in flower towards the end of the year.

FORCING WHITE LILAC (Idem).—The Lilacs sold in Paris in winter are cultivated in pots plunged in the open ground and also planted out in beds, these latter having the roots cut round with a spade about the end of August to induce a free formation of flower buds and to facilitate the removal of the shrubs to the forcing pit, where they are again plunged or planted in the bed. The temperature, cool at first, soon rises as the buds sprout till it reaches a maximum of about 80°. The branches are frequently syringed and the roots well watered with tepid water. The most curious part of the business is the fact that the glass remains covered with mats of straw, termed *paillassons*, day and night to exclude light and blanch the flowers.

SEEDLING BRIARS (Tyro).—Seedling Briars are preferred to Briar cuttings

because of the greater vigour which they possess, in common with all other seedlings, over cuttings.

PROPAGATION OF HOLLIES (H. H.).—Hollies, both green and variegated, may be raised from cuttings made in October and inserted in sand under handlights or bellglasses. Green Hollies, however, are usually raised from seed gathered early in winter and buried in sand till March, when it is taken up and sown in drills on any spare border. The seedlings are transplanted the first or second winter afterwards as they become large enough.

BREAKING-UP GRASS LAND FOR POTATOES (J. T.).—The turf should be pared thinly and burnt, or you will run much risk of having the crop spoilt by wireworms. It would undoubtedly be best to trench the land. That, however, is an expensive operation, and we have obtained excellent crops of Potatoes by deep ploughing, followed by a scarifier or large horse hoe to break up the clods; afterwards spreading and ploughing-in manure at the rate of twenty to fifty cartloads per acre according to the condition of the soil. A similar process to this could of course be done on a small scale with spades or digging forks. For Strawberries the turf should also be burnt and the soil trenched two spits deep, which would be about 16 inches, keeping the subsoil at bottom and working-in plenty of rich manure among both soil and subsoil. Nothing will be gained by planting now, but if you could obtain plants in March they would become thoroughly strong and well established for another season. Vicomtesse Héricart de Thury and Sir Charles Napier are excellent sorts for preserving.

PEACHES AND NECTARINES FOR ORCHARD HOUSE (Armiger).—The following are good varieties for your purpose. *Peaches*: Early Beatrice, Hale's Early, Dr. Hogg, Grosse Mignonne, Noblesse, Bellegarde, and Osprey. *Nectarines*: Lord Napier, Balgown, Violette Hâtive, Pine Apple, Humboldt, and Victoria. Any of the horticultural builders advertising in our columns would erect you a good orchard house; and those who advertise wirework would supply you with Pea protectors. We do not think the "wire cage" suggested would answer the purpose of protecting the blossoms from frost. We are unable to answer your query respecting Briar stocks, but bast for budding can be obtained from any seedsman or nurseryman.

TEBBS'S FUMIGATOR (A Constant Reader).—It can be had from most nurserymen and seedsman who obtain their supply from Flanagan & Sons, 98, Cheapside, London. The price varies according to the size of the fumigator.

PINE APPLE CULTURE (A Young Gardener).—Buy "The Pine Apple Manual." You can have it free by post if you enclose thirty-two penny postage stamps with your full address.

HEATING FORCING HOUSE (H. S.).—There is no need whatever to have a sharp rise in the pipes: all that is necessary is that the flow pipe gradually rise to a certain point, and the pipes from that point decline. At the highest point should be an air pipe to let out the air, and with the pipes full of water the circulation will be good. A saddle boiler, one of the improved forms and as shallow as possible for your position, would answer perfectly. By having a cistern you could heat the house with return pipes, the cistern being a few feet above the boiler as may be required, and the return pipes from it passing through the house, not taking them below the return opening of the boiler.

FLOWERS FOR GREENHOUSE (Inquirer).—Bulbs in variety would give you the quickest display of flowers. Snowdrops and Crocuses may be potted in clumps from the garden. Hyacinths and Tulips may be cheaply purchased. It is too early to sow seeds of annuals. Wallflowers, Hepaticas, Lilies, Violets, &c., may be potted for early flowering, also Roses and other dwarf shrubs.

NAMES OF FRUIT (Miss Hall).—1 and 2, Golden Pearmain; 3, Court Pendu Plat; 4, Dumelow's Seedling; 6 and 7, Shepherd's Fame. Non-subscribers can exhibit at the shows of the Royal Horticultural Society.

NAMES OF PLANTS (H. L.).—It is a very handsome frond of *Adiantum tenerum*, a fine Maiden-hair Fern, native of the West Indies and tropical America.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

SHEEP FOR THE HOME FARM.

(Continued from page 436.)

THE Shropshire breed of sheep next demands our attention. These sheep are particularly adapted to the western and midland districts, which may be said to be their native home; and as Shropshire and adjoining counties contain numerous home farms, the managers will therefore usually select this breed for profitable feeding and fattening. These sheep may be purchased at from one to two years old as wether sheep early in the summer and fed on the pastures or park land until Michaelmas. By that time upon the most fertile grass land they will have become fat enough for the market without artificial food. In the case of pastures not naturally rich or productive, resort should be had to trough feeding throughout the summer by the use of mangolds and meal in admixture as previously recommended for other stock. Mangolds, however, may not always be available, and particularly where the proportion of arable to pasture on the home farm is small; but other roots and early cabbages cut up and meal added will answer every purpose. Green fodder or grass cut into chaff will do, and be moist enough for the meal to adhere to; and this is most essential, for enormous waste will occur if it is attempted to give artificial food without something to give it substance in a palatable

and economical form. After being fed in this way the ordinary breeds of Shropshire sheep will be fit for sale at Michaelmas; and at the same time they will have consumed food the manurial residue of which will have improved the pastures.

The Shropshire sheep are of varying character, but since the Royal Agricultural Society has acknowledged them as a distinct breed they have assumed a more even appearance. The best type by the award of the Judges are the stock bred and reared by Lord Chesham of Latimers. In fact these sheep almost in kindness of character appear like Southdowns; but we prefer some of the stronger larger breed with speckled face, such as we have often had under hand when officiating as judge at shows where the Shropshires formed a portion of the exhibits, as they make more weight at a given age than the higher-bred and neater stock, and furnish more lean meat in proportion to fat. These sheep give a good fleece of wool, which is appreciated by the manufacturers and forms an important part of the profit accruing to summer feeding. Shropshire sheep are a cross, the original being horned and natives of a locality called Morfe Commen, and were first crossed by Southdowns. After this cross they still retained their roaming habit; but to make them more docile and better adapted to feed the rich pastures in company with fattening bullocks, resort was had to the Leicester cross; and this cross has not only made them more quiet in their habit, but has improved the aptitude to fatten, with a better fleece.

We must now refer to the Oxford downs as being best adapted for feeding upon the mixed arable and grass land farms in the midland counties of Oxford, Bedford, Buckingham, &c. These sheep originated in a cross between the Hampshire down and the Cotswolds, some being further improved by a cross with the Leicesters. This type of sheep was so far improved in the hands of the late Mr. Druce of Ensham and Mr. C. Howard of Bedford, that they have now for a number of years been recognised as a distinct breed by the Royal Agricultural Society; and it must be admitted that for feeding in the home farms in the midland counties there is no stock will yield more profit when fed upon the same plan and under the same circumstances as just related for the management of the Shropshire. As wether sheep they will give greater weights when fed upon the system of early maturity than any of the black or mottled-faced polled sheep, and are generally quoted in the Metropolitan Market in conjunction with Southdowns as fetching the highest price per stone. These sheep are also of a quiet habit, which will enable them to feed with bullocks in the pastures with advantage.

The Leicester breed of sheep will require at our hands especial notice as animals well calculated for the home farms situated in the north midland districts of England. Owing to their quiet and docile temper these sheep are especially adapted for feeding in company with horned cattle. In stocking the grass lands it is customary to put on a bullock and one or two sheep per acre, as the fertility of the pasture may require or be capable of feeding. We have known Hampshire downs used for the purpose, but they continually roam about, treading the food instead of eating it, thus starving themselves and the bullocks also. It is therefore a wise custom to prefer the Leicesters, which eat and lie down similar to their companion bullocks. The Leicesters are very quick to fatten, but they do not give a good proportion of lean meat. It is in consequence a good plan not to make them too fat for general consumption. The most economical plan is to send them to market as soon as they have arrived at the most selling stage of fatness. If any artificial food is given, which is not necessary unless the pastures are very poor, it should be beans or lentils cracked and put in troughs, unless mangolds or other vegetable food is at hand to be mixed with meal as before stated. In this way these sheep may be kept on until they reach a great weight, when the meat will be found to consist of flesh and fat in such proportion as will be appreciated by the consumers.

Gloucestershire with its Cotswold sheep, and with it some adjoining counties, furnish splendid animals of great size and heavy weights, well calculated to furnish the markets of the manufacturing districts, where these large stock find a ready sale. They are a hardy race of sheep, and perhaps suffer less from disease (particularly foot rot) than any breed with which we are acquainted, and are especially adapted for the Cotswold Hills and the western districts, which suffer from a heavy rainfall compared with the eastern or southern counties. They feed quickly when put upon good and liberal keeping, and for early maturity of meat they are exceeded by none, but the flesh is coarse although yielding a fair proportion of lean meat. When selected for feeding upon the home farm it should be in some district similar in soil and climate to which they have been accustomed, and where there is a ready sale for these strong and heavy sheep. The wool, too, being long gives weighty fleeces and forms no inconsiderable portion of the profit of feeding this kind of stock.

The Lincoln sheep are particularly adapted for the fen districts of the county from which they derive their name, also for Cambridgeshire and adjoining counties, where they are greatly valued, particularly for the weight of their fleece, which sometimes is said to yield the principal part of profit in feeding, for tegs of this stock in the spring of the year sell for a long price. The length

of the wool is rather against this stock for feeding off turnips upon the land, as the wool often reaches within a few inches of the ground, and they are principally fed upon the rich grass lands of Lincoln and other counties. The management described for other long-woolled sheep applies in full force to this breed both as to feeding and otherwise.

We will now consider the sheep best suited for feeding on the home farm when it is situated in the vales of Scotland and the English border counties. We have a breed admirably adapted for this purpose in the Cheviots; for although they are, strictly speaking, natives of the mountainous districts, yet they flourish more particularly in the valleys, and when crossed by the Leicesters they have proved very profitable. Considering that they are natives of the hills they are extremely docile compared with the black-faced horned sheep of the mountains. They yield to superior management and folding off upon roots in the enclosed districts; and being of only a moderate size they fetch a good price per stone in the market. Except when crossed with longer-woolled breeds they produce only a moderate weight of wool. As they are, however, the chief stock kept in the northern counties and the best lands of Scotland, we are compelled to believe that they are well suited to the soil and climate of these districts; and as most of the modes of feeding before described will apply to these sheep we shall not here repeat them.

There are various other breeds of sheep which may be kept upon the home farm in certain districts with profit, yet as they assimilate so much to some of the breeds before named, we shall conclude by remarking that good management for one may be considered equally beneficial for the other.

WORK ON THE HOME FARM.

Horse Labour.—The period or seed time for autumn wheat sowing being about over, the question may well be asked if it is desirable to sow wheat after this time whilst the value of that grain in the market is so low? Upon many kind barley soils in good condition where roots have been fed-off by sheep, rather than sow wheat it may be held over for barley in the spring, to be ploughed now and left for the earliest season, by merely scarifying and drilling during the first fine weather in the months of February or March. Fallow ploughing of the land intended for root crops next year should now be pushed on so that it may be concluded before hard frosty weather sets in. Old saintfoin leas and old clover leas intended for oats in the spring may now be ploughed and pressed with advantage, because it will give time for the old sward to decay, and for the land to become stale and mellow before the spring seed time arrives. Some horses and men may now be employed in carting roadside earth, also earth obtained by scouring ditches to a heap to decay, so that it may be ready for future use in placing at the bottom of pigsties, cattle pens, cart horse stables, &c. The farm roads and approaches, together with the rick yards, &c., should now be shovelled over so as to collect everything in the shape of soil, rotten straw, and cattle droppings, not only for the sake of cleanliness but for the value of materials for laying out on pastures. If the pasture land is dry it may be laid out at the time of collecting, and save the expense of heaping and second cartage. The roadside earth, &c., may be laid out also, and spread immediately; it will then prove very beneficial to the grass land, especially if 2 cwt. per acre of guano or nitrate of soda is applied in the spring, because the earthy substances supply the mineral matters required, and the guano and nitrate the ammonia required. This will afford the best and cheapest dressing for the grass land, not only to increase the crop but also to improve the quality of the herbage.

Hand Labour will consist of trenching in the meadows, also cutting the water carriers and the relieving trenches in the irrigated meadows, as the earlier this work is done the more the produce will be benefited, and the earlier the grass will be in the spring, either for feeding or for a hay crop. The action of the water in the irrigated meadows is not only fertilising by the deposits of earthy materials at flood time, but in the winter months when the temperature of the air is very low the temperature of the earth when covered with flowing water is higher, consequently the grass grows much faster than when exposed to the atmosphere. The steam-threshing of corn will be going on where fodder of the Lent corn is required; this will employ some men and women too. We have, however, often saved the expenses of threshing and winnowing by cutting the corn fresh out of the rick, straw and all together into chaff. The only question to be arranged and considered is the quantity of corn contained in the chaff, so that no more of oats or drege shall be given than the usual allowance for either horses or cattle. We have often, when the straw crop was not very heavy and containing young clover, harvested the crop entirely for the purpose of using as chaff, and found it save a considerable amount of labour. The ricks of corn will now, in many situations, be infested with rats. These may be disturbed by ferrets and shot on making their appearance. There are men, however, who undertake to clear the ricks of rats, and by smearing the ferrets with some kind of scented oils round the head and neck, which leaves so strong an odour in the rat runs that those which are not killed at the time of ferretting are sure to forsake the rick, and never return

again. We have never been able to obtain the secret of mixing of these oils; the men keep it to themselves, and turn it to their account by charging for clearing the ricks from these vermin. All the young cattle will now be required to feed in the sheds and yards at night time, going out at day time into dry pastures only with a small bait of cut roots and sweet straw for the heifers, but steers should have according to age from 2 to 3 lbs. of decorticated cotton cake per day mixed with 20 lbs. of cut Swedes each in addition to good straw as fodder. The Dorset down sheep will begin lambing before the month is out. They may have a few cabbages out on the pastures, but no hay until after lambing; if any dry fodder is required it should be sweet straw cut into chaff, with cake meal and water to damp the straw and make it palatable. The horned Dorset and Somerset ewes have now quite finished lambing; some of the earliest lambs will be sold at Christmas, but the trade for them is seldom open in the Metropolitan Market until the first week in February.

THE BIRMINGHAM POULTRY SHOW.

(Continued from page 439.)

Game.—Before beginning our remarks about the Game we must enter a loud protest against the position of the Black and Brown Red hens and pullets. There are no breeds in which colour tells more than in these—no breeds whose colours can so little help any deficiencies of light. If the Committee are bound to have pens in this unfortunate situation, birds whose plumage will best reflect the light should be chosen for it. For ourselves we are bound to say, that while we think Birmingham is second to no show in the way in which all its business is managed, it fails to rise to a due sense of its position as “the Derby” of the poultry year. All other shows must more or less tout for popularity. Birmingham has only not to invent means of throwing it away. Every class at Birmingham ought to partake more or less of a champion character. At such a show Selling classes should have no place. What we look for at Birmingham are the picked birds of the year. We have heard of people coming to Birmingham from the north of Scotland to see what a show ought to be. They are not likely to see this at Birmingham till weeding rather than increasing entries is the order of the day. Birmingham is the only Show at which we welcome rather than regret any increase in the price of entries. With this protest we pass to the Game. Nineteen Black Red cocks put in an appearance. First and cup went to Mr. Lyon's £100 bird. He is not quite up yet, but seems likely to fulfil the predictions of those who thought he might get full in hackle this year; but he is a fine bird, and should be able to recoup his owner in the breeding yard. Second was won by Mr. Dutton's cock bird, commended at the Palace. Mr. Tom Mason took third with a very smart bird, which, if he had been rather more willow in the leg and sounder in tail, might have been higher. Fourth went to Mr. Matthew for a fine bird, but rather red in the fluff and broad in tail. 1502 (Walters), highly commended, was a good bird and cheap. 1509 (Maynard), highly commended, was also good.

Black Red cockerels showed a great falling-off in style. Whether Hull has had anything to do with it we do not know, but there was no really first-rate bird here. Mr. Lyon's fifth-prize cockerel was about the best, and had he been in sounder condition could hardly have helped being first; as it was, Mr. Halsall took that honour with a bird of very pretty carriage, but not quite light enough in colour, and with an indifferent head, made worse by bad dubbing. Mr. Garne, a rising exhibitor, took second, but his bird wanted bloom. Mr. Matthew was third with a bird fine in head but too long in the tail, and not bright enough in the eye. 1527 probably did not look so well when the Judge went round as later in the day, or he might have been placed. 1531 (Walters) was cheap at the catalogue price.

In hens first was taken by Mr. Dutton's hen, which took the cup here as pullet last year. Second (Harley) a good hen, but with a poor eye. Mr. Pope was third with the hen second at the Palace. We very much liked 1568 (Goodwin), very highly commended, and should have been inclined to have put her second. Dark eyes seem on the increase. All the highly commended hens well deserved the notice, but the only ones with a really good eye were 1558 (Stagg) and 1565 (Maynard).

Pullets made up in quality for the deficiencies of the cockerels, and the Judge would have had no easy task had the birds been in the best light the Show could have afforded; as it was the task could only have been exceeded in difficulty by Mr. Lane's amongst the Brown Red pullets. The cup went to a beautiful pullet of Mr. Garne's, sister, we believe, to his bird that was so much admired at Oxford, and which we think we recognised here and preferred in his very highly commended pen, 1602. Second was taken by Mr. Halsall, as well as fifth, with two birds that looked much like those at the Palace. If these are the birds that were at Oxford they have greatly improved since then. We dislike the bluish tinge in their legs, but except that they leave little to be desired. The third-prize bird (Lyon) had a sprung comb and a red wing, but showed great quality, like the same owner's other birds—1599 (highly commended) and 1608 (very highly com-

mended). The fourth-prize bird (Pope) was first at the Palace. Amongst the noticed birds which we have not yet mentioned 1581 (Pope) was a fine reachy pullet, a little weak perhaps in the head, and not as brilliant in the eye as might be. 1583 (highly commended) a daughter of the first-prize hen, and with much of her mother's looks, but has not inherited her mother's good eye. 1591 (Frith), commended, was very lengthy, but not too good in head. 1593, highly commended (Phillips), had a very odd tail. 1597, highly commended (Maynard) and 1606, commended, which was one of the best-coloured pullets in the Show. 1600, highly commended (Pope), very much like the same owner's other birds, and full of quality. 1605, highly commended (Van Wart), very cheap at catalogue price. In Brown Red cocks Mr. Matthew took first with a cock that should have had the cup for the best cock in the Show. His legs were perhaps a trifle too willow, but with that exception he was perfect. Second, 1620 (Brierley), was rather red in face. We liked the third-prize bird, 1626 (Watson), better, but he had one of his claws broken. Fourth (Morgan) a very indifferent bird. 1618 (Martin) and 1628, commended (Tom Mason), were either of them better. In cockerels champion cup and second went to Mr. Brierley for two beautiful cockerels of Mr. Garnett's strain. The first is the better bird now, but the future belongs to the second. Third (Wolff) we could never get to hold himself together, either on Saturday or Monday. Fourth (Martin) wanted brightness, and was not up to Mr. Martin's usual form. 1651 (Fenwick) fifth, was the best-coloured bird in the class. His hackles were too full, but we should have placed him third. 1642, highly commended (Matthew), was rather high in tail. 1645 (Adams), commended, was good in colour but rather full.

Brown Red hens and pullets we cannot criticise. We cannot see in the dark. Mr. Matthew won the cup with the bird that was first at the Palace we believe, and which we thought should have had the cup there. Second (Fenwick) was a bird which must have made the Judge wish for two first prizes. Third (Brierley) was hardly brassy enough in the hackles to please us. 1657 (Tom Mason) was a good bird. 1663 (Watson), highly commended, had rather a brown wing we fancy. 1665 (Martin), highly commended, might have had a darker face. 1666, highly commended (Brierley), was too long for her pen. Brown Red Game hens want pens very little smaller than the cocks'. 1671 (Parker) we preferred to 1670 (Morgan), highly commended. In pullets Mr. Fenwick was first, Mr. Martin second, Mr. Brierley third, and Mr. Meredith fourth. Of these we may say that the first excelled in colour and the second in style, while the third had better colour than the second and more style than the first. Fourth was a good pullet with a nice swinging hackle. The following remarks concerning the noticed birds must be taken for what they are worth:—We thought 1672, highly commended (Voisin), was the unnoticed bird we admired at the Palace; 1673, highly commended (Ward), was bright but short, and had too much hackle; 1674 (Brierley), highly commended, had a good breast for cock breeding, but wanted a longer head; 1679, highly commended (Matthew), was very pretty; 1680 (Tom Mason), highly commended, might have been brassier; and we thought 1693 (Frith) should have had a card.

Duckwing cocks, and we are in the light again! Mr. Martin takes the cup with a bird much like his third Palace cock. We liked the first cockerel (Matthew) better, but Mr. Martin's is a very good bird. Second (Matthew) many preferred to the first. Third (Watson) was a fair colour, but a bad tail. 1709 (Oakeley) and 1712 (Staveley), both highly commended, were fair birds. If Mr. Matthew's cockerel was the same that was at the Palace he has recovered from the injury he there did his face by fighting. He is an excellent Duckwing. Second (Harley) and third (Lyon) were both fair birds. As to the noticed birds, we can only say that Mr. Lane takes a more charitable view of what a Duckwing ought to be than we do. In hens Mr. Matthew was first with an excellent hen; Messrs. Staveley second and third. Mr. Lyon and Mr. Goodwin both showed good birds, the latter with a very good eye. In pullets the cup went to Messrs. Staveley for the pullet which was second at the Palace, while the bird there first is here third. As our remarks concerning her were then misprinted we take this opportunity of saying that though the third (Harley) is very good in shape the first beats her in colour and eye. Second (Lyon) has a dark eye too. Good eyes are becoming almost extinct. 1750 (Lyon), highly commended, might have been “Black-eyed Susan” herself.

In Pile cocks there was a mistake about Mr. Halsall's bird (1754). He was the best bird in the class, but Mr. Lane, misled by his short spurs, thought a chicken had been sent by mistake. What was decided as to a prize for him we do not know. As it was the Duke of Sutherland took first, and the Palace first cock was second. 1755, highly commended, had a light eye. In cockerels Mr. Halsall took cup with a bird good but for his tail. Second (Mrs. Bell) was light in eye, but otherwise good. Highly commended, 1766 (Crowther), pretty, but thickish head. 1759 (Otter), commended, pretty; and 1763 (Pratt), a white-legged bird of very good style. Hens.—First (Adams) the Palace bird apparently. Second (Halsall) was high in tail. We preferred 1770 (Walker), highly commended. 1774 (Brierley), highly com-

mended, was also very good. In pullets Mr. Brierley took first. Second went to Messrs. W. & R. Smith for a pretty pullet. 1776 (Halsall), 1781 (Mrs. Bell), and 1786 (Brierley) were all highly commended. 1783 (Clare), commended, we liked quite as well if not better than the second. Cocks, any other variety, contained a motley collection of Blacks, Brassy-winged, Silver Duckwing, White, and Indians. Dr. Etheridge's Silver Duckwing was a bird of very good carriage, though he ought not to have won in this class, and for a Silver Duckwing his hackles should have been clearer, and his saddle was too yellow; but we are grateful to Dr. Etheridge for having the courage to show a Silver. We may say for the encouragement of Silver Duckwing breeders that we know Mr. Smith is quite prepared to award them prizes in the Duckwing class, provided they are as good as Silvers as the Yellow Duckwings are as Yellows. If all judges would do the same we believe Duckwings would vastly increase in numbers and style. We doubt if the King of Oudh would acknowledge Mr. Swift's Ghaguz as having come from his yards. The hens had as great a variety as the cocks. Mr. Montresor was first with a Black pullet of fair style, but too dark in the eye for a Black Game. Mr. Brierley was second, and Mr. Meredith third.

Hamburgs.—Blacks, which were provided with twice as many classes as their Spangled and Pencilled relatives, came first in these beautiful fowls. In Black cocks first was a fine bird in good condition, good white ears, rather broad in comb. Second a fine handsome glossy bird, good in ears and comb. All the noticed birds were good. In cockerels, first, which won the cup for the best Black Hamburg, was a very handsome bird, with capital comb and ears and fine gloss. Second a very good bird with fine head. Third another good glossy bird. This was a splendid class, all the mentioned birds were really good. In hens first was a very green lustrous hen, splendid in colour though not quite perfect in head points. Second was also a very good hen. The other honoured birds were all birds of merit. In pullets first was a pullet of good head points and first-class lustre; she was a beauty, and very much like the Palace winner, if not the same bird. Second was a very similar style of pullet, good all round. Third very lustrous and good in other points. The commended birds were again all meritorious, and we did not see a failure amongst them. In the remaining Hamburg classes all ages competed together. In Gold-pencilled cocks first, an adult entered at ten guineas and labelled sold, was a very handsome bird, good in comb and ears, rich in colour and beautifully laced tail. Second was a pretty cockerel, good in colour, but rather inclined to white in the face. Third a rich-coloured cockerel very good in ears. 1248 (Beldon), 1249 (Pickles), and 1251 (Long) very good indeed. In pullets first was a pretty pullet, very clearly pencilled and good in ground colour. Second a very handsome pullet, good in pencilling and beautiful ground colour. Third a bird in fine condition, very glossy, but not so fine in pencilling as the preceding. 1268 (Smith) the Palace winner, very correct in pencilling, but a little pale in ground colour; 1263 (Harding) good. In Silver-pencilled cocks first-and-cup for this variety was one of the Norwich disqualified birds, a very handsome bird with grand tail. Second a very good one with finely laced tail. Third a fair bird, and the commended birds also good. In hens first was very sharp in pencilling and good in comb and ears, also clear in hackle. Second very well pencilled and in nice trim. Third a well-pencilled pullet. 1277 (the Duke) a good bird. In Silver-spangled cocks first-and-cup a very handsome bird in fine condition, well-marked breast, wing, and tail, and good head. Second a well-marked bird, good in comb and ears. Third good head and well marked. 1285 (Campbell), good. In hens first was beautifully spangled throughout, and with good comb and earlobes. Second was splendidly marked and good in ear, but rather loose in comb. Third a good and well-marked hen though rather dark. The honourably mentioned birds were all good handsome birds. In Golden-spangled cocks first-and-cup rich ground colour, well barred wing, and good breast. Second a good rich-coloured bird, well marked, good ears, though scarcely perfect in comb. Third a showy bird, good in comb and ears. 1800 (Hyde), very good in head; 1301 (Jackson), very rich in colour and good in ears. All the other mentioned birds were good. In hens first rich in ground colour, a well-marked bird, fine comb and earlobes. Second a handsome hen, rich in ground colour, good in head, very correct in marking. Third well marked and good in head. 1318 (Jackson) a good rich-coloured hen.

PIGEONS.

Carriers.—Black cocks.—First had wonderful head and beak properties and was well shown. Second a very fine bird with fine eye and beak/wattle. Hens.—First very fine, good eye wattle. Second also a first-class bird, very fine in beak. **Dun cocks.**—Cup a splendid bird, very good in head properties. Second a very good bird and well shown. Hens.—First was grand in wattle. Second a very good hen, fine in eye. In Carriers of any other colour both the winners were good Blues. 2189 (Cant), a good one. In young Blacks the winners were both very good and promising birds. This was a good class. In young birds of any other colour the winners were good Duns, first winning the cup for young Carriers. In Pouter cocks (Red or Yellow), first a very good Red with fine crop. Se-

cond a good stylish Yellow. In hens both the winners were good Reds. In Blue cocks first a fine-limbed bird, very good. Second a good bird. Hens.—First a fine slim bird. Second good. White Pouter cocks numbered six and hens seven; the winners in both classes very good. In Pouters of any other colour each class contained six entries; all the winners Blacks of fine quality. **Almonds.**—First-and-cup good in head and well broken in colour, a very good bird. Second a very good-headed hen. In any other colour Short-faced Tumbler, first a very good whole-coloured Red. Second a good Black Mottle. In Balds and Beards, first a fine Blue Beard. Second a very good Silver Baldhead. **Barbs.**—Seven old birds were shown. First a beautiful Black; second a Red. They were both in capital condition, as well as being very perfect in head. Mr. Fulton's celebrated Red was not noticed, owing probably to want of condition. Six young birds appeared; the prizes went to two pretty Blacks, not so fully developed in wattle as others in the class, but we suspect the Judge had doubts about the ages of some of those which looked the best. **Trumpeters.**—In Mottles a very dark bird first, a light second. In the Any other colour class a really good White was first, now a *rara avis*; it is only at Birmingham that we ever have the pleasure of seeing representatives from Mr. Shaw's yards and aviaries, which must be most interesting. **Runts.**—The wonderful Parisian Silvers won again. Archangels were poor for Birmingham. First a good purplish bird, and second a good bronzy bird, the rest not very good. **Fantails.**—The cup went to a pretty little White with rather irregular tail. Second we thought the best in the class, small, with beautifully flat tail. Third a coarse bird but with some motion, and very long and broad tail feathers. In Any other colour, Blues won; the first fairly flat in tail. **Nuns.**—All the winners Black. **Swallows.**—A very pretty class. The sectional cup went to Mr. Bulley's lovely Black. Second a good Yellow; third a Red. **Maggies** a very large class. First a Yellow; second a very rich Red; third a Black. **Jacobins.**—Twenty-three Reds and Yellows. The cup went to a lovely little Red; second a Red rich in colour and close in hood, but coarser than the first. Third a Yellow, generally good, but not quite round enough in hood. Any other colour.—First a capital Black with head completely buried in its hood; second a Black, good in hood, rather long in beak; third a White. **Turbits.**—In the Red or Yellow class both prizes went to Yellows. First small and good in colour; second superior in head but less rich in colour. In the Any other colour class a Blue was first, good in head and fair in colour, with rather broad bars; second a small Silver. **Owls.**—In the Foreign class the winners all Whites. In the English class the cup went to a grand Silver, splendid in beak and gullet. Second a slightly powdered Silver with full frill and good face. Mr. Woods' highly commended Blue a good bird. **Dragons** were few—only forty-eight entries for nine classes. We do not believe that the popularity of this breed is at all waning, but that fanciers will not send their birds to be knocked up in the Birmingham atmosphere. The three cups were all taken by Mr. Woods; his winning Blue and Silver cocks were remarkable. We also liked the second Grizzle cock, though he is perhaps too Carrier-like in beak. Mr. Woods' cup Yellow hen was particularly rich in colour. Antwerps were well represented; there is always much sameness in these classes. Mr. Eckroyd's cup Silver Dun cock was about the finest specimen of the variety we have ever seen, and the same gentleman's cup Red Chequer extremely good. Short-billed Frilled varieties made a large class, though many of them were in poor condition. First was a Satinette, and second a Blondinette. Any other variety.—Mr. Bulley's Blue Priest first, second a Spangled Ice Pigeon, and third a Black Fairy Swallow.

MID-SURREY POULTRY SHOW.

THE third annual Exhibition was held at Kingston on Thursday last and following days. The classification this year was judiciously curtailed, and the value of the prizes improved by the money so saved. The result was that many of the most noted exhibitors supported the Show, and hence a visible improvement in the quality.

Dorkings.—In Coloured Mr. Brown won with a capital pen which we do not remember to have seen before, defeating two or three of the cracks. Any other colour poor; first prize withheld. **Cochins.**—Partridge and Buff thirteen entries, Buffs first. Any other variety, first a beautiful pen of Whites well known. **Brahmas.**—Darks and Lights good, Mr. Lingwood winning in both classes. **Minorcas** and **Leghorns** shown together made the largest of the poultry classes, and will, we presume, offer a sufficient encouragement to the Committee to divide them in future. **Polands.**—First a pair of nicely crested birds. **Andalusians.**—Mr. Boissier's pen that we think obtained the third prize at Bexley was here promoted to the first position, and the pen of Mr. Wiggins that was first at Bexley only obtained a highly commended card. **French.**—Hondans eleven entries with some good names in the catalogue, but we could not find a good pen of birds. Pen 202 unnoticed (Vallance) appeared the best, but we were informed the cock was not quite straight in the tail. The winning cock was a moderate bird; the hen was large but gouty on one foot

and carried her crest on one side. Any other variety only five entries, no novelties; second and third prizes withheld. *Bantams*.—Moderate classes. *Ducks*.—Good in quality but few in number.

Pigeons.—Pouters a poor class of four entries, first prize withheld. Carriers, the classes were not so well filled as we expected, but a few high-class birds were to be seen, Mr. Hammock being first in the Any other variety with his Crystal Palace winner. Dragons five classes: we thought them the best in the Show, and with the exception of the Antwerps these were the largest in numbers. Blue and Silver cocks, Mr. Lush was the winner with a nicely coloured Blue; second and third Burnell. Blue and Silver hens, first a magnificent dark hard-eyed bird, very sound in colour with splendid bars, the best we remember to have seen for a considerable period. Any other colour cock, first a Yellow, very even in colour but poor in head; second a Chequer, the Palace winner. Hens, first a Yellow, very rich in colour, but so wild she must have given the Judge some trouble. Young birds, Any other variety, first a beautiful Blue, the Palace winner. In Tumblers, Jacobins, and Turbits Mr. Boxall, a local supporter, to the astonishment of many exhibitors succeeded in winning all the first prizes. Mr. Boxall we see also won prizes in Pouters, Carriers, and Dragon classes. Such a success is almost unprecedented. Mr. Boxall's large entries helped to compensate the Committee for the loss of Mr. Baker's patronage, who was the largest exhibitor on the last occasion, but this year did not show. Antwerps were large classes. An improvement in the arrangements was made by placing the small birds on the stage, and we would suggest on a future occasion double rows of staging in lieu of single, as the birds generally turn their faces in opposition and inspection becomes very difficult.

Mr. Nichols judged the poultry, and Mr. Jones the Pigeons.

CONTAGIOUS DISEASES IN RABBITS.

SOME of these diseases are hereditary, and nothing can eradicate them except death. There are other diseases which are perhaps more frequent that are caused by neglect, and are easily prevented by proper precautions.

There are many diseases caused by a want of care in the provision of moist food. When this is given too freely looseness is the result. If left it soon becomes very weakening, and will cause death, especially when the patient is young. The remedy is to vary the diet. Plenty of dry corn and bran are the best; at the same time green food should not be entirely neglected, as constipation is not at all unlikely to follow. If this is discovered at once, a little extra green food or a handful or two of tea leaves will remove the disease; but if it continues very long, more effective remedies will have to be tried. It may be necessary to entirely stop the supply of corn and substitute roots and greens. In this case the Rabbit should be carefully watched, and directly the desired effect has been attained the old diet should be resumed, but a little more green stuff introduced as a preventive. If this complaint is neglected death is sure to follow, and pretty rapidly. Frequent attacks of constipation and a continual diminution of the supply of green food produce diseases which are increased by dirty or dark hutches, dampness being peculiarly objectionable.

The most common disease is a form of scurvy very disgusting and very contagious. It makes itself known by scales which come on the head and neck, and sometimes on the back. As it is very catching, any Rabbit afflicted with it should be immediately killed unless it is particularly valuable.

Another disease very similar to that one is the mange. The hair on the nose and at the root of the ears comes off, and the flesh is covered with a horny scale even more disgusting than scurf. This complaint is also catching, and should only be dealt with when the Rabbit is of a good strain. The best remedy for these complaints is brimstone. This may be mixed with something greasy and rubbed on the parts affected as a salve, or it may be given internally by mixing a little of the powder among the dry food. Of course any animal affected must be removed from healthy Rabbits. Great care should be exercised in purchasing from strangers, as a mangy Rabbit will affect a whole rabbitry in a few days.

Red-Pot-belly is the name given to a disease caused chiefly in young Rabbits by a constant wet diet. Too much green stuff, especially if wet, will cause this complaint to come very rapidly indeed, and its result is much more serious than is expected. The belly swells to a great size, often making the skin tight. Very often an internal stoppage is the immediate cause of death. On dissection it seems that the whole intestines are affected. The remedy is to make the Rabbit have plenty of exercise, and to drive it about a little. At the same time all green food given should be carefully dried, and the amount should be limited. The dry food must not be neglected, and the Rabbit should be tempted to eat. Many young ones die of this complaint. Judicious feeding and plenty of daily exercise are sure preventives. Old Rabbits are very seldom troubled with this disastrous complaint.

Another effect of injudicious feeding is indigestion, which if not checked in time will end in fits and giddiness. The signs of

the disease are the Rabbit retires to a corner and bends its head repeatedly on one side, looking languid and sad, and not noticing anything. It still continues to eat with vigour, and very often is troubled with costiveness. A good supply of green food with plenty of fresh air is the best remedy. If young they frequently die from the complaint. When badly affected they lie on their sides and backs and kick violently, the fits being of frequent occurrence. At other times they run round and round.

Among the other complaints that are preventable may be mentioned coughs and cold, generally called snuffles. These are indicated by sneezing and running at the nose. The best cure is to keep the Rabbit in a warm hutch, and supply it with warm mash, the best being barleymeal.

Dirty hutches cause many more complaints, especially when accompanied with much warmth. These will be treated of later on, as will also the chronic and hereditary complaints.

Rabbits are liable to have disagreeable discharges from the ears, which often coagulate and assume a waxy appearance. The best treatment is, directly any of it makes its appearance, to pick it out gently, and apply a little sweet oil. This should be repeated daily till the cure is effected.—GERA.

VARIETIES.

At the Smithfield Club Cattle Show held in the Agricultural Hall Islington, this week, Mr. Stratton was awarded the £100 prize for the best beast in the Show with his beautiful Short-horned heifer which won the same prize last year, and also the first prize on both occasions in the Short-horned heifer class. H.R.H. the Prince of Wales, who visited the Show on Monday, warmly congratulated Mr. Stratton on his remarkable achievements. The number of entries in the Show is 401—namely, 182 in the cattle classes, 156 in the sheep classes, and 63 in the pig classes. The Exhibition throughout is one of great excellence, all the animals appearing in capital health. As an instance of the remarkable manner in which the Show has increased, it has only to be noted that in 1800 the number of classes was six, and the amount of prizes £126; this year there were seventy-six classes, and £3000 offered in prizes.

At the Birmingham Cattle Show the collections of roots exhibited by such firms as those of Messrs. Sutton & Sons, James Carter & Co., and E. Webb & Sons, attracted much notice by their magnitude and excellence. We recently noticed the fine exhibitions provided by the above firms, and it is only necessary to say now that the roots at Birmingham were selected as the best from the previous displays, and the remarkable character of the produce will be admitted. The firms also exhibit similarly splendid produce at the Agricultural Hall, Islington, this week.

In Europe, and Austria especially, cows are said to be fed on the leaves of celery cut and mixed in their feed. It is said to give the butter an excellent flavour. The Dutch, or turnip-rooted celery, is easily raised, and both tops and roots may be fed. The experiment may be worthy of trial.

At the Dorset County Poultry, &c., Show to be held at Dorchester on January 15th and 16th, 1879, we observe that prizes amounting to £250 will be awarded, including three silver cups given by W. E. Brymer, Esq., M.P., for Dorkings, Brahmas, and Cochins; also a silver cup, value five guineas, presented by Lord Alington, President of the Society, for the best pen of fowls in the Show, being the property of and exhibited by a resident in the county of Dorset.

The annual sale of poultry from Lady Gwydyr's yards is advertised to take place at Stoke Park on Tuesday, 17th inst. These celebrated strains have so long been carefully bred that fanciers who wish to improve their stock of Cochins or Brahmas should not lose the opportunity of attending this sale, which it is well known is always a *bona fide* one.

The number of visitors to the Birmingham Show was this year much larger than last year. Possibly this may be owing to the attraction of the electric light. The aggregate sales of poultry varied little from last year. Among them we observed that Mr. Mitchell's cup Light Brahma cock was sold for £20; Mr. Rutledge's first-prize Dark Dorking cock for eight guineas and a half; Mr. Lee's first-prize Houdan cockerel fetched £15 at the auction, and Mr. Serjeantson's cup Silver-laced Bantams were claimed for £20. We heard also that £25 was offered during the Show for Lady Dartmouth's Silver Polish hen, but refused.

The electric light in Bingley Hall cannot be pronounced a success. It had frequently to be supplemented by gas, and the atmosphere of the Pigeon gallery was only a few degrees less heated and fetid.

Writing on the health and disease of fowls an American poultry journal observes—"The comb of each fowl is a true index to their condition. If they be in ill health the comb will lose colour and will become far less firm in texture; as the malady increases the colour decreases, till a very sick bird will show a comb almost devoid of scarlet colour, being of a livid dull crimson or else pale or ashy in appearance. If any disease should come

into the flock carefully examine the combs of each bird morning and night, and all those which are wanting in that bright rich colour which denotes perfect health remove at once from the flock to a place remote, where they should be at once put under medical treatment. The comb of the fowl should daily be consulted by the fancier who values the health and well-being of his flock. Look at the comb of a laying hen or pullet! She is in the height of health and strength and carries her unflinching sign of healthfulness on her head, in the shape of a blood-red bright and full comb. A vigorous cock or cockerel will carry the same sign, though not perhaps, in so eminent a degree."

At a meeting of the Superior Commission on the Phylloxera in France, M. Teisserenc du Bort reviewed the present state of the question. The number of infected departments has increased from 28 in January, 1877, to 39 at this date. Out of 6,380,000 acres one-fifth is entirely ruined, while a second fifth threatens to follow suit unless efficacious remedies be adopted. On the proposition of the Minister two vice-presidents were elected. Three sub-commissions were also appointed; one for the examination of proposed remedies, the second for the demarcation of the infested zones and the preparation of circulars and decrees, the third for the recommendation of curative measures.

The French Chamber of Deputies have voted the Budget of the Minister of Agriculture and Commerce, comprising a sum of £504,000. Of this £308,630 are devoted to the improvement generally of the breed of horses. The residue is allotted thus:—Improvement of the breed of cattle, £11,600; veterinary teaching, £37,900; agricultural tuition, £69,200; drainage, £1340; agricultural societies, £20,000; shows, £40,150; inspection of agriculture, £5900; studies on the diseases of the vine, £9280.

TAKING HONEY.

MAY I suggest what I think an improvement on the process given at page 381 for the extraction of honey from the comb, as I manage it myself? I used to squeeze it out in the way described, but disliking it extremely, partly owing to what some may consider over-fastidiousness, not liking so much handling of the honey, and partly from the disagreeableness of the operation itself, I have for many years preferred to drain the honey out of the honeycomb by cutting up the latter in a colander, the said colander being arranged over a large earthenware pan. No doubt the process is somewhat longer in operation, but in cleanliness and niceness (if I may use the term), it is to my mind a far preferable mode of extracting the honey, as avoiding so much manipulation. The combs are carefully separated from one another as described by your correspondent (and the sooner the better after the removal of the bees), then beginning with the finest and purest honeycomb, it is all cut up like mince into the colander. The honey passes off very rapidly, and the purer the comb the firmer is the residuum of wax, which indeed requires but little time or labour to reduce it to a state fit for use. It must be said, however, that most of this sort of honeycomb is retained whole, and kept for home use or sale as such. The second best honeycomb requires more care, but it is treated exactly in the same way, only more time is given to the cutting away of every possible particle of pollen. Treated thus the extracted honey is little if at all inferior to that which I have described above. All the other combs are then finally separated. Some go into a basket or large box, and are spread out for a feast, open to all bee-keepers; the remainder is treated as before, but without the same minutely scrupulous care as to bee bread. It is, of course, inferior honey but good for many purposes. I give these combs away to some poor neighbour who does not mind the trouble of extraction.—B. & W.

SWARMING AND NON-SWARMING.

RESULTS COMPARED.

MR. B.—I trust, Mr. P., you will excuse my coming to see you once more, when you know that I am concerned to learn whether the swarming or non-swarming system of managing bees should be adopted and followed. I want to know which is best and most profitable, and therefore have come to ask advice.

MR. P.—I am glad you have come, if only to learn that hundreds of earnest practical bee-keepers are in the same perplexity, and are as anxious as you are for light on the subject. The question you have come to ask is one of great interest and importance to all earnest and intelligent apianians. For many long years I have been examining this question from every possible standpoint, and if I can help you at all I shall be glad. What is your greatest difficulty in considering the subject?

MR. B.—Well, sir, I watch all that is said in the journals about it, and find that some honest practical men are biased in favour of the swarming system, and others equally honest and intelligent are biased in favour of the non-swarming principle. I want to know which is right.

MR. P.—Probably both sides are right, for no system concentrates within itself all advantages. The fact that men equally honest and intelligent are biased in opposite directions admits of

an explanation. Some seasons are favourable to the swarming system, and some to the non-swarming one. In some districts it is advantageous to promote swarming, in others to prevent swarming. Again, run honey is readily sold in one locality and honeycomb in another. While many amateurs object to the multiplication of hives, many practical bee-keepers amongst the working classes believe there is less risk and more profit in the swarming system than in the other.

MR. B.—Will you explain how it is that one season is favourable to one system and not to the other, and *vice versa*?

MR. P.—The non-swarming system of management has comparatively great advantages in bad seasons, in late or short seasons, and in some seasons not very favourable for honey-gathering. In bad seasons all hives have to be fed, and the expense is so great that we all wish then we had fewer hives. In unfavourable seasons it is bad policy and practice to remove a queen from a hive in which breeding is going on rapidly, and put her with a swarm into an empty hive wherein her eggs cannot be used. Swarming or separation in such seasons is hurtful to both. The parent hive is crippled and greatly disabled for work, and the swarm being without capital gets into difficulties at first which without artificial aid it cannot surmount. In poor short seasons there is little time to spare for comb-building or for filling empty hives. Concentration of the effective forces of the whole army is necessary in the hour of battle.

MR. B.—What other advantages does the non-swarming system possess?

MR. P.—It keeps the apiary in a compact form—every year the number of hives is round and equal. Supering being the aim of the non-swarming apianians, they obtain great harvests of honeycomb in fine seasons if their hives and supers are large. For great results ample room for breeding and storifying is necessary.

MR. B.—Has this system any or many disadvantages?

MR. P.—Yes, many. It is opposed to the natural laws of bee life and development. It is as natural for bees to swarm in ordinary and fine seasons as it is for water to mix with water, and efforts made to prevent swarming are often unavailing. Bees will multiply and go off in spite of all that can be done to prevent them. The risk of losing swarms on the non-swarming system is great, and should never be forgotten. On this system, too, queens become old and die; combs become black, old, and pollen-bound.

MR. B.—Will you name the advantages of the swarming system?

MR. P.—It has already been said that swarming is in the line of nature, and accords with the instincts of bees. Nature is very wise—giving saltiness to the sea to preserve its sweetness, and swarming instincts to bees that their existence may be preserved and their decay prevented. By this system old generations give place to new ones; old combs and old queens can be advantageously removed and put aside; indeed, all old things pass away and all things become new, for in swarming hives we have new interests, new combs, and new life. "Multiplication" leads on to "the rule of three," and three hives from one in early good seasons do far more work and breed more bees than a single non-swarming hive. On the swarming system the practical apianian has lots of bees—nays, swarms of bees from honey hives to dispose of in autumn. He can use them with very great advantage in making his stock hives doubly strong in bees, and by feeding his super-numerary swarms in empty hives he can increase the number of his stocks.

The disadvantages of the swarming system have already been mentioned, which you will remember—viz., the weakening of stock hives in the time of honey-gathering, the consumption of honey in filling swarm hives with combs, the feeding of swarms in bad seasons, &c.

MR. B.—Which system do you practise?

MR. P.—I practise and recommend both systems, for I believe that both should be adopted and followed in all apiaries of four or six hives if profit be the aim of the bee-master. You want profits from your bees every year; muffins—real muffins—not the mere promise of muffins, and therefore I advise you to follow the swarming system with one half of your stock and the non-swarming system with the other half. Both systems go well together. By the swarming system you will have a choice of hives with fresh combs and young queens in them, and plenty of bees from honey hives to make them strong in autumn; and please to bear constantly in mind that great success next season depends greatly on the autumn treatment of bees this year—that is, to say, the striking results of success—the well-buttered muffins—come from strong hives.

I should be glad if I could help you by referring to my own practice, but this would not help you. The multiplying system suits me best just now, for I can sell all the good hives in my garden at good prices; in fact, during the last three or four years it has been difficult to retain strong hives in my apiary. Ladies and gentlemen, and working men too, will have them, and under their importunities I let them go. This year I have stronger hives than I have had for five years. Two-thirds of them will be managed next year on the swarming principle, and the other third on the non-swarming system. Run honey here sells as readily as honeycomb at 1s. 3d. and 1s. 4d. per lb.

Mr. B.—Have you any records of results this year which we could compare and analyse?

Mr. P.—I know of two reports only of bee-keeping this year that can be compared, and neither of them is full or complete. The first is that of a Scotch clergyman who had a good harvest of super honey from eight Stewarton hives—viz., 445 lbs., as reported in the *Journal of Horticulture*. One of these hives yielded 92½ lbs. of this sum total. The other report comes from James Somerville, a working man at Carlisle, Lanarkshire. His hives are made of straw and managed on the swarming principle. The gross weight of one of his stock hives and its swarms was 352 lbs. From his five hives Somerville had 350 lbs. of run honey and 64 lbs. of honey-comb in supers. He sold his run honey at 1s. per lb. I do not know what he got for his honeycomb, but comb is generally sold in Glasgow at 1s. 3d. per lb.—i.e., 3d. higher per pound than run honey. Neither do I know whether the clergyman sold his or not; but by taking the usual price in Glasgow of comb in good seasons we shall not go far wrong in our calculations of the money value of the results. At the prices indicated you will see, Mr. B., that the profits of the eight Stewarton hives this year have been £27 16s. 3d., averaging £3 10s. per hive, and that the profits of the five straw hives managed on the swarming principle have been £21 10s., averaging £4 6s. per hive. If the wax of the straw hives be taken into account the profits would be quite £4 10s. per hive, leaving the Stewarton or non-swarming system 20s. per hive behind. But remember that the clergyman spoke of getting a harvest of run honey from his breeding boxes in addition to his super honey. If he has taken 20 lbs. averagely from each hive, or 240 lbs. altogether, his results will be equal in money value to those of the straw hives. And I am sure that I would be gratified to learn that he has done all this. It would be a great happiness to me to tickle them "equal best." The results in both cases are satisfactory and encouraging. Both gentlemen are able apianians, and doubtless are living in pretty good localities for bees. For such results, probably the highest models of success in 1878, we are indebted to the clergyman of Renfrewshire and the poor thatcher of Carlisle, Lanarkshire.

Mr. B.—Have you forgotten that the clergyman's bees were first-cross Ligurians?

Mr. P.—No, but I attach no importance whatever to that fact. I have no bias in favour of common bees nor prejudice against Ligurians, but the superiority of the one over the other appears to me to be only visionary. During the last twenty years no satisfactory proof of any superiority has been produced. There are so many people anxious to hold up the Ligurian bees that if any evidence can be found of their superiority the country will soon hear of it. For the grand results we are now considering and comparing we are indebted more to the size of the hives than anything else. Hives of any kind, any materials, or construction, measuring 18 inches deep and 14 inches wide, or 18 inches wide and 14 inches deep, filled with either black or Ligurian bees, or cross-breeds, will gather a prodigious amount of honey.

Mr. B.—You seem to attach very little importance to the shape and construction of hives.

Mr. P.—Very little indeed. We cannot help bees, and we cannot make them more industrious than they are. Let yours have plenty of breeding and store room and your success will be greater than you imagine.—A. PETTIGREW.

SOME BEE EXPERIENCES OF 1878.

LAST season I used zinc adaptors with round perforations on two frame hives, and in one case I found the queen in the uppermost of the two supers which had been last put on. As she had only found room for a small amount of brood she had evidently only penetrated there late in the day. Both supers were quite full, and the lower quite free from brood. Her majesty was as slim as a princess, and consequently I am not surprised at her squeezing through the perforations. It was a stock which had not swarmed, but which I had strengthened by the addition of a small cast; possibly this was the queen of the cast. I am sorry I had not leisure to examine the stock to ascertain if there was another queen. It would be interesting to know the experience of others as regards zinc adaptors as to whether my experience is exceptional or not.

I also found an incomplete queen cell built on the wooden dummy occupying the place of the side of a Cheshire hive. I never before found a queen cell built on the side of either a straw or wooden hive. Is it exceptional?—O. B.

OUR LETTER BOX.

KEEP OF FOWLS (A Subscriber).—It is impossible to estimate the expense, so much depends upon the breed, season, locality, and object—whether for eggs, chickens, or exhibition.

HENS FOR LAYING (T. A.).—We advise you to keep Andalusians.

CANARY TREATMENT AND EXHIBITING (Voice).—Judging from what you state respecting the distressed condition of your Norwich cock bird, we have no doubt it is suffering from severe asthma, the result of cold and the

removing of the bird into a different atmosphere. The difficulty of breathing and the painful and unpleasant creaking noises the bird utters are sure signs that life will soon terminate. Cayenne pepper will not cure it of the complaint, especially considering the advanced state of illness. The periodical moulting has very much weakened the bird's system. Give the sufferer a few drops of cod-liver oil mixed with a small portion of soaked bread, in addition to an occasional bread-and-milk diet. You had better procure another cock bird of last season's breed, one not pepper-moulted. Three or four pairs of Norwich birds, clear or marked, according to fancy, will find you ample attention until you become better versed in the hobby of Canary keeping and breeding. Purchase a treatise upon Canaries. At present we should not advise you to pursue the cayenne-pepper system of moulting. It is not only expensive, but you must not expect to make headway in the fancy, especially in the way of successfully competing at bird shows in the peppered classes, with those who have become adepts in the art of moulting Canaries of very high colour. There are classes for non-peppered Canaries at the Crystal Palace, Norwich, and other well-known exhibitions, in which you would stand a better chance of getting a position if your birds be sent in a clean condition. Even before then you will have to learn how to wash a bird or get someone to manipulate for you.

GOLD FISH MANAGEMENT (F. W.).—Draw off the water almost entirely every day by means of a siphon. A piece of india-rubber tube makes the best of siphons for emptying a glass globe, it is so flexible and manageable. River water should be employed. Keep a few aquatic plants in your aquarium, and give the fish a very few small pieces of vermicelli daily. There should be some clean pebbles and sand at the bottom of the globe for the fish to scour against. We do not know the cause of their becoming partly black. Can any of our readers state the cause or remedy?

METEOROLOGICAL OBSERVATIONS.

CAMPDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				
	Barom. at 32° at Sea and Land.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
1878.										
Dec.										
We. 4	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
Th. 5	30.270	35.3	34.3	N	38.5	41.6	34.2	47.7	30.5	—
Fri. 6	30.068	37.2	36.4	N.W.	38.2	43.3	33.3	46.7	28.5	0.011
Sat. 7	30.052	39.7	29.3	N.W.	39.0	39.7	29.3	60.5	26.1	0.130
Sun. 8	29.662	35.2	34.8	N.W.	37.0	36.5	30.4	43.6	27.8	—
Mon. 9	29.485	31.5	30.3	N.	34.8	35.2	31.6	57.8	29.0	—
Tu. 10	29.641	24.8	25.8	N.W.	36.2	34.4	39.0	54.2	25.7	—
Th. 10	29.819	27.3	27.1	N.N.W.	35.9	28.4	26.2	29.4	22.5	—
Means	29.857	32.4	31.6		37.2	37.0	30.6	49.4	27.2	0.141

REMARKS.

- 4th.—Fine pleasant day, clear bright sky at sunset; moonlight evening.
5th.—Foggy morning, overcast but dry till 3.45 P.M.; rain until 7 P.M.; moonlight night.
6th.—Beautiful bright, clear, frosty morning, very fine day; snow commenced at 8.45 p.m.; cloudy night and snowing.
7th.—Raw damp morning, snow melting, dull and overcast all day; flakes of snow in the evening.
8th.—Fair and dry, bright sunshine at intervals during the morning; little thick in afternoon; night fine.
9th.—Cold, but very bright fine day throughout; moonlight evening.
10th.—Thick white frost in morning, very cold all day, no sunshine, overcast and rather thick.
Very cold, mean temperature nearly 8° below the average.—G. J. SYMONS.

COVENT GARDEN MARKET.—DECEMBER 11.

THE only improvement in our Market is amongst late-keeping Apples, such as Wellingtons, Blenheim's, and Nobs, all of which are in good demand at higher rates.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	½ sieve	2 0 to 5 0	Melons.....	each	1 0 to 4 0
Apricots.....	dozen	0 0 0 0	Nectarines....	dozen	0 0 0 0
Cherries.....	½ lb	0 0 0 0	Oranges.....	dozen	100 4 0 10 0
Chestnuts.....	bushel	12 0 16 0	Peaches.....	dozen	0 0 0 0
Currants.....	½ sieve	0 0 0 0	Pears, kitchen.	dozen	0 0 8 0
Black.....	½ sieve	0 0 0 0	dessert.....	dozen	3 0 8 0
Figs.....	dozen	0 0 0 0	Pine Apples....	dozen	2 0 4 0
Filberts.....	½ lb.	0 9 1 0	Pineapples....	½ sieve	0 0 0 0
Gobs.....	½ lb.	0 9 1 0	Raspberries....	½ lb.	0 0 0 0
Gooseberries.	quart	0 0 0 0	Strawberries..	½ lb.	0 0 0 0
Grapes, hothouse	½ lb	1 6 0 0	Walnuts.....	bushel	3 0 0 0
Lemons.....	dozen	4 0 8 0	ditto.....	dozen	0 0 0 0

VEGETABLES.

		s. d.	s. d.			s. d.	s. d.				
Artichokes.....	dozen	2	0	4	Mushrooms.....	pottle	1	6	2	0	
Asparagus.....	bundle	0	0	0	Mustard & Cress.....	punnet	0	2	0	4	
Beans, Kidney.....	½ 100	1	0	1	6	Onions.....	bushel	2	6	3	0
Beet, Red.....	dozen	1	6	3	0	Pickling.....	quart	0	4	0	0
Broccoli.....	bundle	0	9	1	6	Parsley..... doz.	bunches	3	0	0	6
Brussels Sprouts.....	½ sieve	2	0	4	0	Parsnips.....	dozen	0	0	0	0
Cabbage.....	dozen	1	0	2	0	Peas.....	quart	0	0	0	6
Carrots.....	bunch	0	4	0	8	Potatoes.....	bushel	3	6	4	0
Capsicums.....	½ 100	1	6	2	0	Kidney.....	bushel	4	0	5	6
Cauliflowers.....	dozen	3	0	6	0	Radishes..... doz.	bunches	1	0	1	0
Celery.....	bundle	1	6	2	0	Rhubarb.....	bundle	0	0	0	0
Coleworts..... doz.	bunches	2	0	4	0	Salsify.....	bundle	0	0	1	6
Cucumbers.....	each	0	4	1	0	Scorzonera.....	bundle	1	0	0	0
Endive.....	dozen	1	0	2	0	Seakale.....	basket	2	6	3	0
Fennel.....	bunch	3	0	0	0	Shallots.....	½ lb	0	3	0	0
Garlic.....	½ lb.	0	6	0	0	Spinach.....	bushel	2	6	4	0
Herbs.....	bunch	0	2	0	0	Turnips.....	bunch	0	2	0	0
Leeks.....	bunch	0	2	0	4	Veg. Marrows.....	each	0	0	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 19—25, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year
			Day.	Night.	Mean	h.	m.	h.	m.	h.	m.	h.	m.	Days.	m.	s.		
19	TH	Royal Society at 8.30 P.M.	45.4	32.5	39.5	8	5	3	50	2	43	0	22	25	2	40	353	
20	F		44.1	33.6	38.9	8	6	3	50	4	11	0	4g	26	2	10	354	
21	S	ST. THOMAS. Shortest day.	44.1	34.0	39.0	8	6	3	50	5	39	1	18	27	1	40	355	
22	SUN	4 SUNDAY IN ADVENT.	45.0	32.5	38.7	8	7	3	51	7	0	2	4	28	1	10	356	
23	M	London Institution at 5 P.M.	44.1	31.7	37.9	8	7	3	52	8	7	3	6	●	0	40	357	
24	TU		40.0	31.3	37.6	8	7	3	52	8	57	4	20	1	0	10	358	
25	W	CHRISTMAS DAY.	43.4	29.4	36.4	8	7	3	53	9	33	5	40	2		before	359	

From observations taken near London during forty-three years, the average day temperature of the week is 43.7°; and its night temperature 30.7°.

From observations taken near London during forty-three years, the average day temperature of the week is 43.7°; and its night temperature 30.7°.

PREPARATIONS FOR CHRISTMAS.

GREATER unanimity is shown to welcome in old Christmas than at any other festival to which anything like national observance is accorded. Sad indeed must be the condition of an individual to whom its joy-bells bring no good tidings—no kindly emotions either in the guise of pleasant memories of the past or the warm grasp of friendship; the cheery salutations of "A Merry Christmas" from gathering friends and relatives, or even the more matter-of-fact delight of the humble tiller of the soil in his abundant Christmas supply of warmth and good cheer.

Christmas is coming, and special preparations must be made in the garden, the house, the church, the market. A busy time it is, therefore, especially for the gardener; for does not he wish to make the surroundings of the house as trim and ornamental as possible, so as to be in keeping with its interior decorations? To this end miniature shrubs, many of them gay with berries, are planted in the flower beds; shrubby borders are forked over, the shrubs pruned, and the prunings turned to account for church and household decoration. The latter is frequently an elaborate affair involving much time and painstaking, the greatest difficulty often being to hit upon some new design, something different to the efforts of former years. Good taste will, of course, lead to satisfactory results. Without it there should be no ambitious flights, no aiming at novel effect, but rather a quiet tone should prevail with plenty of warmth about it. Spiral wreaths to pillars, festoons along walls between pictures, Ivy along cornices and architraves, neat wreaths of Box, berried and variegated Holly, Laurustinus, and Cotoneaster around pictures, mirrors, and doorways.

For a Christmas tree there is nothing better than a Spruce Fir planted in a tub or barrel with the head knocked out and filled with moist sand. Let the tub be large, so as to avoid all risk of an upset; let the lower branches of the tree be well fastened to it with cords to keep all steady, and cover both tub and cords with green baize. If there is a large party, say about fifty children, and a lofty room can be had, the tree should be quite 15 feet high, to afford space on the branches for presents and the usual accompaniments of flags, Chinese lanterns, and other candle holders and ornaments. Have plenty of flags near the top of the tree and on the ends of the branches, and take care there is nothing inflammable immediately over the candles. Three or four tapers on long sticks will be wanted for lighting, and there should be a few pieces of damp sponge also on long sticks at hand for extinguishers in case of anything taking fire.

Dinner-table decoration at Christmas to be seasonable should consist of wreaths, or rather scrolls, of foliage springing from an encircling wreath around the centrepiece and winding lightly and gracefully upon the tablecloth among the dessert dishes along the sides of the table to the ends. It is not easy to convey a clear idea in writing as to the formation

of scrolls, the eye and hand of an artist being requisite to do them really well. They consist of long sprays of Lycopods, the blue-tinged *Lycopodium cæsum* being a special favourite; small fronds of Maidenhair Fern, and leaves of *Cissus discolor*, *Phyllanthus roseo-pictus*, pink-marked Crotons, Oak-leaved and tricolor Geraniums, sprays of *Panicum variegatum* and *Tradescantia zebrina*, with any other foliage of a light and ornamental character. A bowl of flowers may form the centrepiece, but tall stands are not much used now, strong objection being taken to obstructions and floral screens along the centre of the table. If there is a chandelier it may be turned to account for the suspension of small clear glass globes dressed with Lycopods and Ferns, with just one spray of bright toned flowers in each. Above these among the lamps there may be a wreath of *Arbutus* sprays bearing crimson berries and waxen blossom mingled together, or the entire centre of the chandelier may be filled with the dark green foliage of *Iris foetidissima* relieved by a few clusters of its gay scarlet berries overhanging a wreath of Mistletoe—not a heavy overpowering affair, but with the sprays clustering lightly together in just proportion to the size and form of the chandelier itself.

Of church decorations I am not disposed to enter particularly into any one method, for to take a narrow view of such a subject would be contrary to the genial fraternal spirit shown by both readers and writers of the Journal. Rather let me counsel those enthusiastic young people who enter so heartily into the adorning not to indulge in a display of gaudy banners and startling inscriptions, but to see whether they cannot impart to the interior of the sacred edifice a warm, bright, yet chaste appearance by a liberal use of Holly, mingled with Laurustinus, Ivy, *Arbutus*, and such other evergreens as may be had. Everybody loves to see the church under its familiar old Christmas guise, but few can really care to see there the tinsel and glare of a theatre. To gardeners who may be called upon to assist in church decoration and who then probably find themselves in the enjoyment of the, to them, not uncommon privilege of hints from refined ladies for the guidance of their work, I would say, Seize the opportunity to obtain a lesson in taste. Many a prosperous man owes much of his success in life to having turned such apparent trifles to account. Depend upon it your enjoyment of Christmas will be all the more hearty from the sense of knowledge gained and from the involuntary respect that is quite certain to be accorded for your demeanour under the circumstances.

But while preparations for Christmas must be conducted in various ways in a private manner, yet nowhere can the magnitude of the provision requisite for the coming festival be so fully appreciated as in the markets. To meet the demands of the Christmas week in the cities and towns of the kingdom other nations than our own contribute of their wealth. Oranges and Pine Apples from St. Michael's and other places, Lemons from Italy and Alexandria, Grapes from France and Spain, Melons from Portugal, Apples from America, Pears from the Channel Islands, and even Bananas from the West Indies, share in the Christmas cheer of British homes. Great, however, as are the consignments of these fruits, all of choice vegetables and

salads from foreign shores, they form but an infinitesimal amount of the requirements of the season in question. The great bulk, and an enormous bulk it is, of the Christmas requirements produced in gardens are produced at home. Those who have not seen the arrivals of produce by road and rail for the great metropolitan Christmas flower and vegetable markets can form no conception of their magnitude. Holly and Mistletoe are represented by stacks resembling ricks in a farmyard; "Christmas trees" by thousands—young Spruces from 1 to 3 feet high, and purchasable from 6d. each; vegetables of every kind, in quality of the first order and in quantity astounding; and flowering plants that startle the onlooker by their numbers and incite the envy of the gardener by their excellence of culture. This is an outline of the preparations for Christmas—the great festival of the Christian world. A pleasant thought arises therefrom—namely, that those who are engaged in the cultivation of the soil labour in an important field and share in noble work. Their toil may be hard, and in too many instances it is feared their immediate emoluments may be scant; but there is a great compensating after-pleasure to urge them on, for they make hearts glad and homes bright, maintain the high reputation of British husbandry, and honour themselves by the excellence of their work.—EWD. LUCKHURST.

HOW TO MANAGE AND USE RUBBISH.

RUBBISH heaps are a necessary appendage to gardens. There are daily additions being made to them throughout the year. Now it is the haul of a crop of Peas just past, of Lettuces run to seed, of Seakale or Rhubarb leaves which have done their season's work. Again, it may be the combined "pinchings" of the Vines of Grapes, and Melons, and Cucumbers, or an entire batch of faded softwooded plants no longer useful, or the pickings and cleanings of a flower garden, or the "cleanings" of potting sheds, the sweepings of roads or edgings of walk verges. In short, the rubbish heap is the receptacle for receiving everything connected with a garden of which no further use can be made at the time.

Now this gathering, which in some respects may be set down as a nuisance, is capable of being transformed into a valuable "gardener's assistant." There is, or may be, system in all things, and even in the matter of forming rubbish heaps it is profitable to do so systematically; accordingly all refuse of a woody nature—as prunings of fruit trees, stems of Cabages and allied crops, Jerusalem Artichokes, &c.—should be kept by themselves and burnt; stony mixtures also by themselves; and the main rubbish heap, composed of all refuse which decays quickly, by itself.

The commencement of the year may also mark the beginning of the year's rubbish heaps, and at that time be particular in forming the sites of the various heaps. The space required for combustible matter need not be large, as fires can be lighted at any time, and a bulky heap reduced to smoke and ashes; also, in the case of the stony mound, which never grows rapidly, the stones and soil are expeditiously separated by means of a sieve or screen. But with the heap of vegetable matter the case is different. As the summer progresses increasing quantities are daily added, and its bulk increases proportionally. Natural decay being not quite so speedy in its action as fire, the bulk of the heap does not grow less, but greater. Now, by having a system of throwing all such refuse neatly on the main heap as it is brought forward much inconvenient litter is saved, whilst the great body of matter is more favourable to the influences of decomposition than it is when scattered about. So much for the formation of the heaps. Let us now look to what use may be made of them.

During winter there are days which are only fit for working amongst rubbish, and on such days the vegetable heap should be turned over, shaking and mixing it well up in the process. Soil may be mixed with it as the work proceeds, also the ashes of the burnt refuse, but this is generally of as much or more value kept by itself. After this turning decomposition will proceed rapidly, and no further additions of fresh matter should be made to it. If on some day at the beginning of the succeeding winter it is again turned and left for a few weeks it will then have become a very valuable manure, rich in agents which are absent in ordinary stable or cowhouse dung. Where the latter manures are not over-plentiful the vegetable heap may with advantage be mixed with the dung.

In applying these heaps to the ground we like to have the whole intimately incorporated with the soil as the operation of trenching goes on. It invariably shows on the crops wher-

ever it has been introduced. As a manure for Peas, Beans, Artichokes, and Potatoes it is preferable to any animal manures; these inducing leaf and stem growth, whilst vegetable fertilisers act immediately on the fruit-producing portion.

As a dressing for Geraniums in flower beds decayed vegetable rubbish is also of great value, the tendency which animal manures have to induce leaf growth at expense of flowers being absent, as in the case of the Peas above mentioned. Where the compost is not decomposed and reduced so much as above recommended it should be worked into the bottom of trenches, and at the succeeding turning-over of the soil brought near to the surface.

There is an idea somewhat prevalent that the weeds produced from introducing refuse matter again into gardens counterbalance any benefits of a manurial nature. But there is no necessity to have any weed seeds in the heap. If weeds are allowed to reach the seeding stage before removal from the garden they should be burnt, as also anything calculated to render the compost of less value than it ought to be when properly managed.

The ashes remaining from burnt refuse are very valuable for dressing Grape Vine borders, Peach borders, and borders containing the roots of fruit trees generally. They are also used mixed with fresh soot for pointing into the surface of the soil for various vegetable crops, for which purpose they are very valuable.—R. P. BROTHERSTON, *Tynninghame*.

STRAWBERRIES IN WINTER.

WELCOME as are ripe Strawberries in early spring, they are equally esteemed during the autumn and winter months. We think the growing of this fruit for dessert during the period named will become general when it is known that fruit may be produced through October and November equal in flavour, size, and colour to fruit ripened in March. In the spring the Strawberry is forced in nearly every gardening establishment, but its cultivation for ripening fruit in the autumn seems confined for the present to only a few growers. At this season ripe Strawberries are regarded as a rarity, and are very highly prized by those who have them. We believe Strawberries can be grown all the year round, and would be better after Christmas than for two or three weeks before. The days begin to lengthen with the new year, and the increase of light and sun renders the ripening of the fruit better and easier than in December.

The supply of ripe fruit can be kept up from the time the plants have done fruiting outside if necessary. The time to start the first batch of plants for autumn fruiting very much depends upon the locality and the varieties that do best. In some places late varieties outside are a failure, consequently the season is very short, and if the supply is to continue an early preparation is needed to meet the demand. It is, therefore, necessary that the first batch of plants started to fruit in February and March are taken care of after the fruit is gathered, and gradually hardened off until they can be placed outside. These plants with good cultivation will again produce fruit if required in August. Later-forced plants will with similar treatment produce ripe fruit in October, November, and onwards.

We now come to another point, and not the least important—that is, the variety that will succeed best for our purpose; this we consider the first step to success, for we might prepare a quantity of plants ill adapted for fruiting in the autumn. Hitherto Vicomtesse Héricart de Thury has been considered the best autumn-fruiting variety. It has its good properties, and will certainly produce fruit at any season of the year; but this has been superseded by a variety we can recommend to give twice the quantity of fruit of large size, flavour and colour being excellent. We are indebted to Mr. Hinds of Otterspool for being in possession of such a valuable variety as Underhill's Sir Harry. If plants of this variety are forced in the spring, and after the fruit has been gathered the plants are well cared for, hardened off, and placed outside in a cool situation where they can receive a small season of rest, they will yield second crops of great value. While resting, however, they should be attended to in the way of watering. After enjoying a short season of repose they are ready to be partially shaken out and repotted into little larger pots, or be planted out in borders. Either system is good. Whether in pots or out they should be liberally supplied with water through the summer. This is all the attention they require until they commence throwing up their flower spikes, which

they will do freely in August. Those planted out should be lifted by the end of that month with good balls and placed in pots. After potting they are best placed in frames, kept close, well syringed and watered until they are established. When root-action has again commenced they should have plenty of air. The plants that were partially shaken out and placed in pots can remain outside until the end of September if the weather is favourable. It is best to place them inside after that date on vinery or Peach house shelves, as close to the glass as possible; there they will continue to bloom and set abundance of fruit, which should be thinned if large fruits are required.

The forwardest of these plants can be introduced into the Strawberry house, or where it is intended to fruit them. It is not advisable to introduce too many, because they will not afterwards stand retarding. The house should not be kept more than 60° at night to commence with, abundance of air being given on all favourable occasions. Care must be exercised that the internal atmosphere of the house is kept rather dry, which adds to the flavour of the fruit. If the weather is bright through October and November the flavour will be excellent. Other batches should be introduced as required.

The plants intended to fruit in January should be kept in a temperature of 50° to 55° at night, according to the external atmosphere, avoiding cold draughts. The flavour is not quite so good towards the close of December, especially if there is no sun. The small sample sent for your inspection were gathered December 11th; variety Underhill's Sir Harry. We have been gathering such fruit for some time past, and shall continue for some time to come, although during the past fortnight we have scarcely had an hour's bright sun. We would recommend anyone not in possession of this valuable variety to lose no time in obtaining it.—W. BARDNEY, *Norris Green*.

[The fruit received was perfectly ripe, of high colour and good flavour. The largest fruit was 4½ inches in circumference, and the smallest 3½ inches. Such fruit at this season is highly creditable to the cultivator.—EDS.]

FROST AND ITS MANAGEMENT.

THAT is a somewhat singular heading, yet I think there is a meaning in it—at least I thought there was once when I so managed it as to save a valuable store of early Potatoes. When injury is done by frost it is generally in the early part of the winter before we are alive to its full severity, or before everything has been prepared for a term of arctic weather. It was in November that my Potatoes were frozen. I thought they were safe, but was alarmed one morning to find them when moved "rattle like nuts," as my man remarked. It was a choice stock, and much esteemed both by my employer and myself. With these Potatoes I tried some experiments. Some of them I left unmoved and covered them with straw, but the frost increased and that lot was lost. Others I placed in cold water, and the ice formed on their surfaces immediately, and a great portion of the tubers "turned soft" and were valueless. The others, and just half of the bulk, I simply buried in the garden; not in a large heap nor deeply covered, but spread in a layer 2 or 3 inches thick and well beneath the surface. Here they remained until spring, when to my surprise and gratification nearly every tuber was sound, and grew as if they had never been frozen. That is what I call managing frost. I borrowed the idea from Nature, remembering that I had often dug up sound Potatoes which had accidentally been left in the ground all the winter, and which had not been covered more than an inch deep. Those tubers must have been frozen and recovered. In fact I had often seen—as others must have seen—a tuber partially embedded in the soil, the upper portion of the Potato exposed being frozen, the lower half in the ground sound. Twenty years have elapsed since I managed the frost in the manner described—managed to extract it from the Potatoes.

In the memorable winter of 1860 the frost, in spite of all precautions, found its way into the fruit room and turned half a ton of Apples as hard as stones. The Onions also were equally hard. Of the latter I had not much fear, but I felt certain the frost would ruin the fruit unless it was carefully managed. All the best of the Apples were buried the same as the Potatoes, and two months afterwards were dug up fresh and sound. They lost much of their flavour, but still they were of much service, and all were used for culinary purposes. Those left in the room—the smaller part—were utterly destroyed. A portion of the Onions was also buried, and all

turned out sound; but then only a very few were injured of those left in the room, which proved to my satisfaction how hardy Onions are when they have been well harvested and are kept dry.

As to the management of frost in the case of plants overtaken by it—I mean such as Geraniums and plants of a similar nature—I can only advise them being kept cool and dark until the frost is over and a general thaw has succeeded. I believe in the case of frosted plants that no better plan could be adopted than to dig a square hole in the earth, place a hurdle over it and cover it with soil, and then leave these cool dark quarters and leave the rest to Nature. I have had plants frozen and covered up in dark pits for six weeks together, and after the thaw they have been as green as when they were first covered up.

The above are a few instances of managing frost in a manner that was as valuable as it was successful; and I mention my experience now, when severe weather appears imminent, in case it may prove useful to others who may be placed in the same unwelcome position that I found myself in 1857 and 1860.—AN OLD STAGER.

ROSE RETROSPECTS.

As retrospects are in process I will venture to add my quota and cast one more pebble on the cairn of the old year. I do not think it will be remembered with much affection. It was a signal example of the impossibility of predicting. An early season may all at once become late, or a late season suddenly be transformed into an early one. In this year upon June 22nd, here in sunny Surrey there was hardly an exhibition Rose open in the garden, while in another week's time the whole Rose season was more than half over. The red Roses were overpowered by the tropical heat; the white Roses and Teas always take things more philosophically. To continue my observations: A bed of a hundred on Manettis, which had been over-excited at pruning time and afterwards went back greatly, now came to the front, and much strong and fresh new wood showed appreciation of the forcing weather. A showery summer materially assisted this, also a wet August was very favourable to budding. Far more buds started into little heads than usual. This, however, is a thing I by no means desire. I much prefer a bud waiting to shoot up into a strong single branch in the spring time.

From Briar cuttings this has been one of the best seasons I ever remember. I never saw the hedges so full of tall waving 10 and 15-foot shoots. And to my mind the Briar cutting is the coming stock. The stem is always straight; the roots it makes are wonderful. It takes one-fourth of the time to get into use of the seedling Briar, and it is infinitely more abundant than the Briar stock. Indeed so frequent have been the briarman's visits to hedges hereabouts that *Rosa canina* is in danger in some parts of disappearing.

With regard to Roses of the year—and every year has its Rose—Marie Baumann, as the election shows, queened it altogether. Of seedlings those two glorious Roses of Mr. W. Paul are certainly those which most dwell on my memory—Countess of Rosebery and Duchess of Bedford.—A. C.

THE STRAWBERRY—SYSTEMS OF CULTIVATION.

UNDER the above heading I detailed last June, on page 443, four systems of rooting runners for planting. I referred approvingly to the plan of rooting them in turves. I have made it my business to specially note plants grown in this way side by side with those grown by the other method, and the plants propagated from were in each instance the same, yet the disparity between them was most remarkable. Those former that had been raised in turves had splendid large healthy crowns with fine foliage, and will for a certainty produce some splendid fruit next season. The contrast with the lines put down from trowel-lifted young plants was most conspicuous. These plants being small and cannot bear a good crop of fruit for two seasons—a material consideration for those growers who pay so dearly for ground and want an immediate return.—W. J. M., *Clonmel*.

PETROLEUM AS AN INSECT KILLER.

I CAN corroborate Mr. Taylor as to the efficacy of this agent in destroying insects and not injuring plants. Nothing looks worse in the houses in a gentleman's garden than to see the axils and under side of the leaves covered with mealy bug or the young growths infested by red spider, or the leaves all

speckled over and looking rusty from thrips. Where such a condition of things unfortunately exists the cure for it is petroleum, or what I presume is the same, paraffin. In clearing a collection of plants from the insects named I placed five gallons of tepid water in a tub, and mixed with it (the mixing being as thorough as possible) about a quarter of a pint of paraffin. The small plants were dipped, the larger syringed. One man held the plant on its side over the tub and another gave it a heavy syringing, and thus the insects were killed and but little of the insecticide wasted. I syringed plants—some of them in flower—of Fuchsias, Geraniums, Poinsettias, Gardenias, Azaleas, Begonias, Gesneras, Hoyas, Ixoras, Lapagerias, Rhynchospermums, Coleuses, and Eucharises, and not one of them received the least injury to foliage, young shoots, or flowers. I have used the solution also for syringing Vines and Peaches, but not quite so strong, and nothing but good resulted, for all the insects were killed.—D. L.

PETROLEUM is recommended to be diluted with water, but the "mixing" is more apparent than real. For the purpose of a thin sprinkling the recommendation is all right, but the oil remains pure oil still; the water runs from the plants whilst the pure oil remains. The dose being repeated, in the course of time the leaf becomes coated with oil, the pores of leaves become clogged, and health disappears in the course of time. This was my experience with some Camellias I bought infested with scale.—J. WITHERSPOON.

SAVING A CROP OF GRAPES.

THE account recently given by Mr. Witherspoon of the dangers of using sulphur fumes in a viney induces me to relate my own experience in the same line as a further caution to amateurs.

In the middle of June, 1873, I planted a late viney with Vines struck from eyes the same year. The Vines were planted 3 feet 6 inches apart, and trained as single rods up the rafters about 20 feet. The viney is a lean-to facing due south, and the varieties are Gros Colman, Mrs. Pince, Lady Downe's, Aramon, and White Muscat. The back wall was planted with Hamburgs as a catch crop till the Vines on the roof came into full bearing.

Aramon was the first every year to show red spider, and this season about midsummer I noticed the first traces on it, and at once painted the pipes with lime and sulphur, and waited for a few days to see the result. The weather, which up to this time had been dull and cold, suddenly setting in very hot and bright, increased the red spider, and I therefore placed a pan of guano water under the affected Vine; but the continued drought favouring the spider, in a few days it began to spread to the other Vines, and as the Grapes were now stoning I determined to try and stamp out the pest with sulphur fumes. Fearing injury to the foliage I took special precautions against igniting any of the sulphur in the house; and on the evening of July 6th, having heated some flat pieces of iron in a dark room behind the viney, I sprinkled them with sulphur, and when quite satisfied that it was no longer alight I carried them into the viney. In this manner I succeeded in filling the house with a thin blue haze, and produced an atmosphere that no human being, and I fondly hoped no spider either, could long breathe and live. In about half an hour I looked in to see what effect had been produced upon the enemy, when I discovered that here and there the tender lateral growth was flagging, but as the main leaves were all right and the spider as lively as ever, I left it for another half hour or so, and then on re-entering I saw to my dismay that several of the main leaves were also flagging, and being now alarmed I at once opened the ventilators and soon cleared all the fumes out of the house. As soon as the air was clear enough to make a close examination it became evident that the foliage had suffered considerably, and I therefore left a little top air on all night, and went to bed hoping that no great harm was done. Awaking with the first streak of dawn I hurried down to see how much mischief had been done, and found every leaf curled up. For four years I had been cropping lightly to nurse my Vines, and your readers may judge for themselves of my disappointment at seeing my first full crop in such a sorry plight. What to do I did not know. There was no gardener in the neighbourhood that I could consult, and as the sun would soon be up it was necessary to take prompt measures to save the Vines; the crop I had no idea of saving, and indeed intended removing all the bunches

to ease the Vines. As there was no time to lose I at once proceeded to prepare some whiting and water, and syringed the roof till not a single spot of glass remained uncovered, so as to secure complete shade before the sun was up, and having shut up the house set to work to drench the borders and paths; and as soon as my man came I gave him orders to sprinkle water about every half hour or so, and on no account to open any of the ventilators. My idea being to keep the house as close and moist as possible, to force the lateral buds to break before the roots felt the loss of the foliage, and at the same time keep the leaves from drying up and falling off all at once.

In the course of the day I had time to examine the bunches, and found the Hamburgs on the back wall blackened in the berry stalks as if shanked, and apparently hopelessly gone. The late varieties on the roof were also blackened in the same way, but not so badly, excepting Aramon, the cause of all the mischief, and on second thoughts I resolved to leave the bunches on in the hope of saving a few.

As soon as the sun was fairly up the temperature rose to 120°; we sprinkled assiduously all day long, and fortunately the next day the weather turned cloudy and we were able to keep the temperature down to 90°. The leaves became browner and browner, but did not dry up. In three days the topmost lateral buds began to break, and in about a week three or four young leaves were formed. I then pinched out the points of these shoots to make the lower laterals break. After eight or nine days I noticed mould or mildew forming on the berry stalks at the point of junction with the berry, and gave a little air, besides dusting the bunches over with dry sulphur. The sun had not troubled me much during this period, but now shone out hotter than ever, and red spider soon re-appeared on the new foliage; but by the free use of the syringe and clear rain water I have managed to keep it fairly under. In a day or two after giving air the injured leaves dried up and fell off till not a score were left in the whole house, and these in every case were the first small leaf next the old wood.

In about a month the roof was covered with new foliage from the laterals, and the Grapes have since ripened remarkably well, in fact altogether beyond my most sanguine expectations. The Hamburgs on the back wall suffered most, and Lady Downe's lost a great many berries from scalding till the new foliage was sufficiently grown to shade them. Lady Downe's and Gros Colman when colouring cracked many of the berries at the point (which they have never done with me before, though Gros Colman sometimes cracks a little round the stalk), as I suppose owing to the elasticity of the skin being injured. Mrs. Pince and the White Muscat are almost uninjured. Whether the keeping qualities will be affected I cannot yet say, but they seem to hang all right at present, and I send you a few berries to show what they are like.

I have now lost all faith in the power of sulphur to cure red spider, and shall certainly not try it again. Judicious syringing with pure rain water is the safest remedy, and if carefully done will not injure the bloom—at least for all ordinary purposes, and for prize bunches the leaves can be sponged by hand.

Some varieties seem more liable than others to take red spider, and for this reason I shall not grow Aramon again; but the site and soil of a viney are, I think, of more importance, as in some situations with careful management red spider can be easily kept under, while in others it is a constant source of trouble. As prevention is always better than cure special attention should be given, whenever a spell of cloudy dull weather is succeeded by a burst of sunshine, to keeping the atmosphere of a house sufficiently moist and the borders thoroughly watered. Sprinkling the surface is no good, as the entire borders should be soaked right through, and with good drainage it is simply impossible to overdo it.—ESSEX.

[The Grapes received are excellent; the Muscats clear, Mrs. Pince's good, and Gros Colman fine, one berry exceeding 1½ inch in diameter—a worthy reward for the remedial treatment that was so intelligently and promptly applied under the circumstances.—EDS.]

SCHIZOSTYLIS COCCINEA.

I USED to flower this useful winter-flowering plant in pots, but latterly it has been found to succeed better left in the open ground, protection being afforded as called for by the state of the weather. This was provided by mats thrown over a temporary framework. Last winter the crop of flowers proved so

valuable that a frame with glass sashes was decided on for this and succeeding winters. It is a very plain erection—a sufficient number of sawn boards nailed on laths from the front, back, and ends; these are united at the corners with screws to allow for taking to pieces readily and storing away when not required. The sashes were part of the roof of a pit, which was reconstructed this autumn. Our stock is now, therefore, secure either from frost or heavy rains, which disfigure the flowers.

I find this plant does best divided every spring and replanted. The end of March is a good time to do this, pulling the clumps into pieces of three or four strong growths. These are planted 6 inches apart in rows a foot asunder. The ground requires to be well cultivated and liberally manured. The work during summer consists in keeping the bed clean and running the hoe occasionally up the rows. Treated thus the spikes are much stronger and the individual blooms larger than when allowed to grow on undivided and uncultivated for years. Our bed is 15 feet by 9, and is a little forest of spikes. The plants have been yielding flowers since the middle of October, and continue producing fresh spikes to take the places of those cut. In a cut state the spikes continue to open, though the colour is not so deep as when opened out of doors. By cutting portions of the stalks and changing the water twice a week the spikes last for ten days at least.—R. P. B.

WINTERING BEDDING PLANTS.

HAVING received several inquiries relative to preserving bedding plants in unbeated pits we reprint the following seasonable notes, as embodying the long experience of our accomplished old contributor the late Donald Beaton:—

The reason of hearing so much of harm in cold pits by frost and damp weather is just the want of Nature's rest for plants, and Nature's rest for plants is simply *cold* all the world over.

It is difficult, however, to cause Nature to rest in bedding plants during a muggy moist autumn, such as the last we have gone through. There was no real rest till the frost came on shortly before Christmas, and in many of the cold pits all over the country plants were in a very bad condition then to go suddenly to rest; and those who made and may make use of bright sunshine in hard frosty weather to help to keep off the frost will be punished in the long run if the winter holds on hard a long time.

Some people will lose plants from the sheer want of means of saving them from frost after all their good treatment; but the great bulk of the loss occurs from the soft state of the plants just before the frost, from the damp state of the bottom and sides of pits and frames, and the quantity of wet soil in the pots. Now the effect of an hour or two's sun on all this damp at this season of the year is to raise a strong degree of vapour, which, being confined, has the worst possible effect on softwooded plants. The moment the sun touches the glass of a cold pit in frosty weather air should be admitted, if ever so little, and the sun should be entirely off the glass before the air is shut off, no matter how cold the day may be. It is far better for soft plants to leave the glass wholly covered for days together in sunny weather during a hard frost than to raise that vapour inside a frame and not allow it to pass off instantly. With the exception of real practitioners it is difficult to make people to believe all this, for the mass of mankind do not and cannot see the immediate risk or any danger at present, nor signs of any such misfortune as is implied in these strict rules. But real practice has more effect on the public mind than the actual preaching-up of a theory, be it ever so sound; therefore just hear that I practise what I preach about my own plants at rest.

I have kept over three thousand Geraniums in one cold pit without any artificial heat. The pit is seventeen lights long in one division, the back is 9-inch brickwork, the two ends mounds of earth against 1-inch deal, and the whole length of the front is only of that material—or say, the front and ends of pitch-pine deal 1 inch thick; but there is a dry lining in front 6 inches through. The glass has a good slope, and is covered with four folds of mats, and as much stuff over them as keeps off any frost. During the slight early frost in October I closed this pit for two nights only, and then, expecting a run of mild weather, I fixed as a rule that abundance of air should be left on every night, and that the lights should be off, or all but off, the whole day if it did not rain till the glass fell to 30°. That rule applied down to the week before Christmas; then the first frost was 10° of cold, or the thermometer was down

to 22° on the scale, and some of the leaves got stiff with the frost after having two mats thick over the glass, but nothing to hurt; and I opened the lights wide while the sun was out, and in the afternoon I allowed the glass to get a little frosted before I put on the mats, which were also frozen a little.

The second change I had 14° of frost, the glass being down to 18°, and put four mats thick on. Then 12° of frost, and on the sixth night I put a deep covering of dry materials over the mats; and as long as the frost will last, even if it should be for six weeks, I shall not open this pit nor let the sun shine on the glass; but I am not yet sufficiently covered to hold out against a down-to-zero frost, and I shall add more to the covering or not according as the glass tells the fall of the temperature. After all that covering my glass is frosted just as on the first afternoon; the mats are also stiff, and all the materials over them are stiffish also, and the air round my pits cannot be much over 30° all this time; but I have no glass inside to tell how it is, and I am always afraid to trust to common thermometers that way, instead of the eye and the feel of a friendly hand among the leaves.

Now these plants are, at last, sent to rest entirely by cold, the most natural method of inducing entire rest. The pit is quite dry, and the longer I can keep the plants at rest the better for them and the easier for me. I shall keep them in the dark as long as the frost continues, and shall not open the glass till four days of thaw have passed, and then shall not open the glass till the first cloudy day, when I shall admit air very freely. Many years back I used to keep five thousand plants of Geraniums every winter, and I know of no better method for all kinds of frame plants. There is not a shade of difference between my present plan and that which I practised twenty years since; and I am convinced that the nearer the plan can be imitated the safer the plants will get through a long winter.

There is one other move, however, which helps me greatly—I never water any such plants the whole winter. They had not had a drop from the end of last September, and I hope it will reach to the end of next March ere they need watering. Hundreds of thousands of little Heaths, and others just as tender, and not over 3 inches in length, are kept in the London nurseries with only one mat to keep the glass clean, the rest of the covering being straw or stubble. But these being in very small pots must have occasional waterings, which doubles the expense over the plan of not watering at all; also doubles the risk of moulding or damping off.

The great error and the greatest danger are in the fidgetty ways of amateurs, who fear their plants are done for if they escape being uncovered for three consecutive days at a time. I think nothing of having my pets three weeks at a stretch as dark as the thickest covering can keep them. But where everything is wet or damp inside, and the alternate chills and vapours which are caused by every blink of the sun being used to keep up the heat render the plants so excitable, and so liable to the least cause of injury, that the wonder is how many of them escape a sharp winter.

NATIONAL ROSE SOCIETY.

THE annual meeting of the above Society was held, according to announcement, by permission of the Horticultural Club at their rooms, Arundel Street, Strand, on Thursday the 12th inst., the Hon. and Rev. J. T. Boscawen in the chair. There was a large attendance, including many of our best rosarians, and doubtless the inclement weather suggestive of no Roses but Christmas Roses deterred others from attending. Amongst those present were the Rev. Alan Cheales, Capt. Christy; Messrs. McIntosh, Davies, Jowitt, Mayo, Arthur G. Soames, Evans, Graveley, Yeates, Strange, Hart, Robins, Turner, George Paul, Cranston, Prince, Appleby, Young, Jefferies, T. Francis Rivers, Corp. &c.

The Hon. Treasurer, Mr. W. Scott, made his financial statement. It appeared that there had been £446 4s. 6d. received, and that there had been expended in prizes £366 6s. 6d.; in printing, stationery, and all working expenses £44 1s. 2d., leaving a balance in hand of £35 16s. 10d., there being, however, a debt due on account of the Exhibition at St. James's Hall last year of between £50 and £60; and a vote of thanks was proposed to Mr. Scott for the able manner in which he fulfilled his duties as Treasurer during the past year. The minutes of the General Committee having been read by Mr. Mawley the Hon. Secretary, Mr. McIntosh was elected as a Vice-President of the Society, and the Committee and officers were elected for the ensuing year, the local Secretaries being added to the list of the General Committee. An interesting discussion then took place as to whether any persons who were not members of the Society should be allowed to exhibit, and it

was ultimately agreed that non-members must pay an entrance fee of 5s., receiving also an exhibitor's pass. The Rev. H. H. D'Ombra, Hon. Sec., then read the correspondence he had had with the authorities of the Crystal Palace and Botanical Gardens, Manchester, when the proposal already made by the General Committee that one exhibition should be held on June 28th at the Crystal Palace, and the provincial one at Manchester on July 12th was ratified; a resolution, however, was added that efforts should be made to secure some other town for the provincial show of 1880. Another interesting discussion arose as to whether the highest number of blooms for amateurs should be forty-eight or thirty-six; and it was ultimately decided, after the pros and cons had been duly weighed, as Messrs. Baker and Jowitt would show forty-eight for Mr. Cranston's cup, thirty-six should be the highest amount required for exhibitors this year. The meeting was altogether a most excellent one, and much interest in the future welfare of the Society was manifested. The proceedings terminated with a hearty vote of thanks to the Chairman.

The annual dinner took place afterwards, when nearly thirty sat down to dinner, the Hon. and Rev. J. T. Boscawen in the chair, Dr. Hogg in the vice-chair. The dinner was excellently served, and some handsome dishes of Apples were kindly sent by Lewis A. Killick, Esq., of Mount Pleasant, Langley, near Maidstone; and flowers from Mr. T. A. Dickson of Covent Garden. With the exception of the usual loyal toasts none were given, the time being profitably occupied by a discussion on the best way of advancing the Society's interests; and a proposal was made by the Chairman that a die should be obtained and medals be struck off, to be given year by year to various provincial Rose societies. The idea was warmly taken up. Several subscriptions were announced, including those of the Chairman, Vice-Chairman, Messrs. Cranston, Paul, Robins, Hart, Oakes, and others. A vote of thanks was proposed by Mr. C. Turner to the Hon. Secretaries.

Altogether the Society may be congratulated on a very successful anniversary; and if, as was suggested, each member would endeavour to procure an additional one, the Society would be placed on a secure basis.

ICE HOUSES AND ICE STORING.

"ONCE upon a time," as the story books say, I had under my charge a large ice house. The well was excavated, or the greater portion of it, out of the solid rock. The perpendicular sides were as firm almost as adamant and nearly as smooth as marble. A portion of the sides, however, about one-third of the well, having been broken during the excavations, a lining became necessary, and for this bricks were employed. Thus two-thirds of the sides of the store were of stone and one-third of brick.

As all who have had experience in ice houses are aware, when the houses are opened in the spring, after having been closed for several weeks, it is found that the ice has shrunk from the sides, leaving a space all round between the ice pile and the walls. It was so in this case, but not equally so all round. In one portion of the house the space from which the ice had melted was usually more than a foot when the house was first opened, in the other only about 6 inches. If I were to leave the matter as it is and ask whether stones or brick walls were the better preservers, probably a few readers would find a difficulty in giving a correct reply. I will not, however, keep them in suspense, but will state that the brick walls were the best preservers of the ice, for it was there where the vacant space was always the most narrow. I was at first a little puzzled to account for this, but the reason for the difference came on reflection. Confined moisture in a state of vapour is the great enemy of ice keeping. Where ice melts there must be vapour, but a greater portion of the moisture, I presume, was absorbed by the comparatively porous bricks than by the closer and more impervious stone. If I were now lining an ice well I should line it with bricks.

In the storing of ice it is usual to place straw next the walls, but I cannot perceive the advantage of that practice. It is certain that much more air is admitted round the ice than when straw is not employed. This air melts the ice, and the melting causes the straw to become wet, and further waste must then follow. I have on more than one occasion placed straw half round the house, but never once saw the advantage of the practice, and it is now discontinued, and the room the straw occupied is now occupied with ice.

It is a common practice to pound or crush the ice as small as possible, and generally the practice is good, the object being to prevent air being enclosed in large interstices between large irregularly shaped lumps of ice. Where, however, the ice is strong and large sheets can be packed in layers, there is less air enclosed than when the ice is crushed. Thin layers of snow when it is actually frozen and quite dry may be advan-

tageously spread with the ice; but when the snow has a tendency to melt on being moved it should not be employed.

The first condition for keeping ice is a well-drained site, and the next a cool temperature with a dry surface to the pile. The latter can only be secured by ventilation enabling the vapour consequent on the melting of the ice to pass away. Ice houses after being filled should not be closed so long as severe weather continues; and even when the weather is mild and melting commences a little ventilation should be given occasionally in order to keep the atmosphere of the store as dry as possible. But however good the ice house may be, and whatever precautions are taken to preserve the ice, disappointment will result if it is not taken from clean clear water. If sticks, weeds, or leaves are floating on the surface of the water before it is frozen, and the particles become, as they must do, attached to the ice, then much money will be uselessly expended and labour wasted in filling the house, for such ice cannot be kept in any profitable and satisfactory manner.

It is most important that ice should be stored in all country places, for it is not only a great luxury in summer to the healthy, but is often a boon unpriced to those who are afflicted. By its timely application under medical advice ice has no doubt saved many lives; it is, therefore, incumbent on all who have the means of doing so to store ice largely, and store it well.—STEWART AND GARDENER.

ROYAL HORTICULTURAL SOCIETY.

DECEMBER 17TH.

THIS the last meeting of the year was rendered interesting by a remarkable collection of variegated shrubs, ornamental Conifers, &c., from the nurseries of Messrs. Charles Lee & Sons, and by extensive collections of Apples of considerable merit. Owing to the severity of the weather tender plants were sparingly exhibited, still sufficient flowers were staged to make the Council room cheerful.

FRUIT COMMITTEE.—Henry Webb, Esq., V.P., in the chair. Mr. Dancer, Little Sutton, sent Reinette de Caux and Dutch Mignonne Apples, and the Committee were of opinion that the two varieties are essentially identical. Mr. Moore of Warwick sent four varieties of seedling Apples. One, a seedling from Wyken Pippin, was a very handsome small dessert Apple of the size and shape of Golden Pippin. This was thought highly of by the Committee, but had been gathered too soon and had become shrivelled. Another raised from Bess Pool was also of excellent quality—tender in the flesh and of delicate flavour. These the Committee would like to see again. The others, too, were not thought to be an improvement on existing varieties. Messrs. W. Paul & Son exhibited a dish of Theresia Nevill Pear, a new variety raised by Mr. John Mannington, the raiser of Mannington's Pearmain Apple. It is of good size, rather irregular in shape like Ne Plus Meuris, of a fine firm buttery flesh, and delicate aroma with a rich flavour. This is a valuable winter Pear which will, no doubt, be heard of again. Mr. Killick of Langley sent a dish of an Apple called King William—a handsome, somewhat flattened, highly coloured Apple of very rich flavour, which was highly commended.

Sir Charles Strickland, Bart., reported on the varieties of cooking Apples that were submitted to his examination at last meeting. Dr. Hogg, raised by Mr. Sidney Ford, "very like the White Calville, probably a seedling from it. Melts perfectly, does not fall at all, juicy, slightly acid, very rich and sugary, delicate aroma. A first-rate baking Apple. If the tree should prove hardy, healthy, and productive, this will be a valuable Apple. I should like to try its quality later in the season." This was awarded a first-class certificate. Mr. Sidney Ford exhibited six dishes of Apples, to which a letter of thanks was awarded. Messrs. Ross, Coates and Co., Dunster House, Mark Lane, exhibited Apples cut in slices and dried, received from the United States. They preserved all the briskness and flavour of the fresh Apple, and were commended.

Mr. J. Douglas, Loxford Hall, Essex, exhibited bunches of Golden Queen and Royal Vineyard Grapes grown in the same house and under the same treatment, the object of which was to show the unhealthy constitution of the former, which had begun to decay in every berry, while the latter was quite firm and fresh.

Mr. G. F. Wilson, F.R.S., Heatherbank, Weybridge, sent dried fruit of Bananas, which were considered good as a sweetmeat.

Mr. D. Wilson, The Gardens, Castle Hill, South Molton, sent two very handsome Smooth-leaved Cayenne Pine Apples weighing respectively 8 lbs. and 7½ lbs., to which a cultural commendation was awarded. Mr. W. Iggulden, The Gardens, Orsett Hall, Romford, sent a dish of Trophy Tomatoes, to which a letter of thanks was awarded. Mr. R. Gilbert of The Gardens, Burghley, sent a brace of Taylor's Montrose Cucumber "Dispatch," to which a cultural commendation was awarded; also Cabbage Broccoli, which was awarded a first-class certificate for its high quality when cooked, the flavour being quite new in the Cabbage tribe.

Collections of fruit were received from Mr. Gardiner, The Gardens, Eington Park, Stratford-on-Avon, consisting of forty varieties of Apples and six of Pears, to which a silver Knightian medal was awarded; from Mr. Killick, Langley, Kent, thirty varieties of Apples, to which a cultural commendation was awarded.

FLORAL COMMITTEE.—Mr. C. Noble in the chair. The entrance vestibule was completely filled with Messrs. Lee's imposing collection of "hardy winter-bedding plants." Some of the "plants" were pyramid variegated Hollies 10 to 15 feet high, and standard Hollies, standard and pyramid Bays, Yews in great variety and of various sizes, some of them drooping, some pyramids, some table-shaped, some cones, some vase-shaped, a few of the common being grafted with variegated kinds, thus having golden heads. Some trees of the Golden Spruce showed to advantage, also Cryptomerias in various sizes, with smaller specimens of Taxodiums, Junipers, Thujas, Cupressuses, Retinosporas, and such-like elegant Conifers, amongst which were arranged with great effect standards of Euonymuses and Ives of the Arborea section—some green, others variegated. These were on stems from 2 to 4 feet in height, with compact heads about a foot in diameter, and were extremely ornamental. The collection was further relieved by Yuccas and several plants of Gynierum compactum elegans. Along the sides of the group were flat baskets artistically filled with dwarf plants, such as concentric lines of Retinosporas and Euonymuses, panels of plants of the same kinds; and some baskets contained masses of such plants as Ligustrum sinensis tricolor and Euonymuses edged with Box. This extensive collection embraced upwards of eighty species and varieties of shrubs and Conifers, all of which were in excellent condition, and attracted, and deservedly so, great attention. A gold medal was recommended for the collection.

Mr. Bull was awarded a first-class certificate for *Lælia anceps alba*, a charming acquisition that was described on page 449. It will find its way into all collections. Mr. Heims, gardener to F. A. Philbrick, Esq., Q.C., Avenue Road, Regent's Park, was worthily and unanimously awarded a cultural commendation for a fine example of *Sophronites grandiflora*. It was growing on cork, and had upwards of fifty brilliant flowers. The same exhibitor sent *Odontoglossum Warszewiczii*, which somewhat resembles a pale variety of *O. vexillarium*. Messrs. Hugh Low and Co., Clapton, were awarded a botanical commendation for *Masdevallia Trigloch*, a tiny plant with leaves an inch long and one-eighth of an inch in diameter, and equally miniature flowers. Mr. Green, gardener to Sir G. Macleay, Bart., Pendell Court, Bletchingley, was awarded botanical certificates for *Billbergia nutans*, with small drooping red flowers margined with purple; and *Grevillea fasciculata*. Mr. Green also exhibited *Æchmea Weilbeckii*.

Mr. Gilbert, The Gardens, Burghley, Stamford, sent plants of his double *Primulas* with large flowers in various colours and fine foliage. Most of them had been previously certificated, and only one variety, *Earl of Beaconsfield*, was honoured on this occasion with a certificate. The flowers are very double, $1\frac{1}{2}$ inch in diameter; petals slightly fimbriated; colour bright rosy magenta. The long stems of the individual flowers of these varieties render the pips valuable for bouquets. A vote of thanks was awarded for the collection. Mr. Smith, Ealing Dean Nursery, Ealing, exhibited about fifty plants of *Cyclamens* representing an excellent strain, the flowers being very fine, the whites pure, and the dark varieties rich, especially those ruby crimson in colour. A vote of thanks was awarded. Mr. Hepper, gardener to C. O. Ledward, Esq., The Elms, Acton, sent well-grown plants of *Solanum pendulum*, which resembles the old *S. Capsicastrum*, but the leaves have distinct light midribs. It is an elegant variety. A vote of thanks was awarded.

Mr. Cannell exhibited stands of cut Zonal *Pelargoniums* of wonderful excellence. The varieties were Henry Jacoby, Lizzie Brookes, Belle of Surrey, S. Holden, Dr. Denny, D. Thomson, M. Panton, The Shah, Mrs. Leavers, Mr. Pollett, Rienzi, Circulator, Kleon, Remus, Mr. Chandler, A. Henderson, Titania, Louisa, Miss Glastone, Mrs. Whiteley, Col. Seely, Lady Sheffield, and Mr. Palmer, all represented by grand trusses, and produced a rich effect. A stand containing twenty-four trusses of White *Vesuvius* was charming, and almost equally so was Salmon *Vesuvius*; the striped variety was also well exhibited. It is noteworthy that one pip of White *Vesuvius* had two bright scarlet petals, the other three being pure white. This was the finest collection of its kind that has ever been seen in December; in fact it would have done credit to any man at any season. A vote of thanks was worthily awarded.

Mr. George sent a seedling *Abutilon* Rose Queen, but it was passed by the Committee. Mr. Thomson, Crystal Palace, sent fruiting sprays of *Eucalyptus globulus*. Mr. Noble exhibited *Thujaopsis borealis* aureo-variegata; and an ornamental tin plant-suspender was exhibited by Mr. Peter Selby, 15½, Nuttall Hill, Birmingham.

The thanks of the Committees were tendered to the Chairmen and the Secretary, and the last of a successful series of gatherings during 1878 closed with a mutual interchange of

courtesies. Many of the meetings have been rendered additionally instructive by elucidatory remarks by Mr. Jennings the Assistant Secretary, and other gentlemen; and Mr. Barron and his assistants have exercised their usual assiduity in having the arrangements as complete as possible and convenient to all.

MANETTI STOCKS SUCKERING.

I HAVE received from Mr. Shackleton, Ireland, a plant of Charles Lefebvre budded on a Manetti with a decided shoot from a root of the stock and not from the stem. It is interesting to me as being the first I have ever seen, though Mr. Hinton says he has occasionally seen them; but I speak of it as a shoot, not a sucker, as the formation is decidedly different to that of the sucker of a Dog Rose or the sucker of a Raspberry or other plant that is accustomed to send up root suckers, which push the eye at the end of the underground root. The plant sent was budded on a healthy Manetti stock which had formed strong roots, and from one of the strongest roots a shoot has started as if a wood bud had been formed on the root. I am afraid some of your readers will think, that as I have always so definitely asserted that Manetti stocks did not send up root suckers but shoots from the stem, that I am prejudiced in making these remarks, especially as I have offered to cook and eat all true Manetti suckers; but I am obliged to acknowledge that the plant sent kindly to me has a decided shoot from the root, even if it is not a regular root sucker. It came by post and travelled very safely, and I have planted it with the Manetti shoot on it with the hopes of making further observations, and shall be glad if any other of your readers would kindly send me, if they find them when transplanting Roses on Manetti stocks, any plants that have either root shoots or definite root suckers.—C. P. PEACH.

MR. DOUGLAS'S RECANTATIONS ON DETAILS OF VINE CULTURE.

I VENTURE to trouble you with this communication because I think the *Journal of Horticulture* is the proper place for it, and also because I think it has a special interest for those of your readers who, like myself, remember what Mr. Douglas has written in your pages up till the end of last year, or rather the beginning of this. It is pretty well known that Mr. Douglas has altered his opinions on certain points of Grape-culture, though as yet the public do not know why. The fact only has been intimated that certain practices relating to Grape-culture which Mr. Douglas has all along recommended in your pages he now condemns. I was not, however, prepared for such a complete recantation, not to say a flat contradiction, of his own statements relating to matters of fact in reference to the said points as appears in the *Gardener's Chronicle* of November 30th, and with your permission I shall contrast his present statements and admissions in your contemporary with those which have more than once appeared in your pages from the same pen.

In the *Gardener's Chronicle* Mr. Douglas tells us that he thinks one "cause of exhaustion in early vineries is the custom of covering the outside and inside borders with fermenting materials." In the *Journal of Horticulture* only last year he says, on the strength of his past successful experience, that his practice of using fermenting materials "has always been successful." In the *Gardener's Chronicle* his experience of fermenting material is that it "heats violently for two weeks or less, and then as rapidly cools down." In the *Journal of Horticulture* for the end of 1875 we find him using a "thick coating sufficient to cause a gentle heat" only, and in the same passage stating that a coating of fermenting materials "1 foot or 18 inches thick will keep the heat for six weeks, when it may be removed." In the *Gardener's Chronicle* he states that the aforesaid "violent heat is not desirable, especially when the roots are near the surface." In the *Journal* he has no fear on this head at all, but rather doubts the heat from the bed penetrating the border, observing that, "although but little heat can be forced into the border by the heat of the fermenting materials, still it must warm it to the depth of a few inches." This was only the year before last. In the confession which Mr. Douglas reserves for another place, but which it was fair he should have made to his old readers whom he has for years so misled according to his own showing, fermenting material is all that is bad; it exhausts the Vines, it burns the roots, it is uncertain in its action, and it is altogether worse than useless.

In the "Doings of the Week" it is quite the reverse—highly useful, almost indispensable, and easily managed. He has himself been using the same for years with the most satisfactory results, and without a word of complaint.

I have heard a good deal of surprise expressed at Mr. Douglas's sudden and peculiar change of opinion by those who are familiar with his writings, and no wonder. The readers of the Journal need not, however, be disconcerted. What Mr. Douglas has there written is right; what he writes now is, in my opinion, wrong. He has espoused a cause that has broken down miserably at the outset, and unless he is prepared to tell us that what he has written under the head of "Doings of the Week" expresses neither his convictions nor his practice at the time, as they were supposed to do by every reader of the Journal, I doubt if he can furnish one single argument in support of his new opinions, from his own practice, as to the treatment of early Vine borders. Up to the beginning of the forcing season for 1878 (*vide the Journal of Horticulture* for December 20, 1877) he continued by his writings to profess unabated confidence in the use of fermenting materials, and but for an accidental remark dropped by him in conversation it is doubtful if the public would ever have known that the author of the "Doings of the Week" for years back had ceased to believe what he had himself so long taught confidently to others.

Mr. Douglas's conversion took place between last December and April of the present year, and it would be interesting, and no doubt instructive, to know what happened in that short interval to cause him to alter opinions based upon the highly successful practice of his whole past career as a Grape-grower.—J. S. W.

THE WINTER HELIOTROPE.

The plant that commonly bears this name is no relation to the sweet but tender Cherry Pie of the flower garden. It is only a humble Coltsfoot (*Tussilago fragrans*), and the more aristocratic name has been applied to it on account of its fine scent, which is very like that of the Heliotrope. In appearance it is a most unattractive plant, with coarse, roundish, toothed leaves, and before many of these appear it throws up a short stout spike or thyrus of whitish composite flowers; but, homely-looking though it be, scented flowers being at a premium in midwinter, a few pots of it will be found well worth their room. Its natural season of flowering in the open border is during the month of February, but if lifted in clumps, like Lily of the Valley, and potted in November it will flower by Christmas in a cool greenhouse, and a very little heat will force it into flower any time during the winter no matter when it is lifted, when it will be found very useful for mixing with cut flowers of a showier description.

It is a native of Italy and Greece, but has become naturalised in some parts of Britain. By the side of the Doon at Monkwood, near Ayr, it is very plentiful, and fifteen years ago it used to run riot in a belt of wood at Croxted Lane near Dulwich.—R. D. TAYLOR.

NOTES AND GLEANINGS.

ALTHOUGH a week of unmistakeable wintery weather has been experienced in the south, yet the FROST IN THE LONDON DISTRICT has not been nearly so severe as in more northern counties. The frost has varied considerably in intensity in localities. In Battersea Park only 10 degrees of frost have been registered, in Mr. Cutbush's nursery at Highgate 10 degrees, in his Barnet nursery 16 degrees, in Lord Londesborough's garden at Norbiton 9 degrees, and in Mr. Baring's at Coombe Cottage—half a mile distant—14 degrees. The most severe frost we have heard of near London was in Mr. McIntosh's garden at Dunevan, where 21 degrees of frost were registered. Only about an inch of snow has fallen in London, but south of the metropolis, in Kent, the ground has been covered about 4 inches deep. Yesterday (Wednesday) morning it was thawing in London, and some rain fell.

— REFERRING to our note on page 450 relative to the NATIONAL CARNATION AND AURICULA SOCIETIES, Mr. Dodwell assures us that he sent us the financial reports of the above Societies on November 23rd. Although these reports never reached us we do not doubt that they were duly sent as stated. Mr. Dodwell further adds that, "owing to deaths and the change always the work of time, though we start with a balance in each case in hand, yet without very liberal help

from new friends we shall inevitably be left with a deficit at the close of the season, and I appeal earnestly to those of your readers who love flowers and have means, to sustain us in the effort to give effect to the art involved in their development and in the wider knowledge well-sustained exhibitions confer upon an outside public. I am loth to refer to myself, but with seriously impaired health I have a double anxiety that associations which have undoubtedly elicited a wide-spread interest should sustain no interruption in their progress, and therefore I urge this appeal."

— AS Christmas trees choice, beautiful, and not common, few can rival ARAUCARIA EXCELSA. Small trees from 3 to 6 feet in height as grown in the different nurseries are handsome objects for room and corridor adornment at this festive season, and it is not surprising that such trees are in demand by the affluent as suitable Christmas presents among friends. These miniature trees are living presents, growing in beauty yearly in the conservatory, and have a distinguished effect when plunged in lawns during the summer. All the tender Araucarias are beautiful; some are massive, others slender; some quaint, others stately; but all without exception ornamental. A few very distinct are excelsa, Cooki, Cunninghamii, Rulei, and Goldieana.

— WRITING to us on RIPENING PEARS IN WINTER, a correspondent states—"If you want to have the fruit in the finest condition ripen it in a temperature of 80° to 90°, and keep it there as long as possible, so that it does not become icy cold before it is placed on the dessert table. There is no comparison between Pears ripened in a cold fruit room and others ripened in a warm stove. By placing fruit in a close box, and placing it in a Pine stove a week or ten days before Christmas, I shall have Beurré Diel, Joséphine de Malines, Winter Nelis, and Beurré Sterckmans in prime condition for the Christmas dessert; but if I left the fruit to ripen in the cool fruit room the only Pears I could place on the table would be Beurré Diel and Ne Plus Meuris, of second-rate quality. If you want to enjoy the full rich aroma of Pears, ripen the fruit in heat and eat it before it is cold."

— THE following seasonable note has been received from an experienced gardener on WORK FOR SEVERE WEATHER—"As soon as anything like a settled frost sets in and the ground is too hard for working it is common for men to be at once set to work amongst stakes and Pea sticks. This is often a mistake. So long as the surface of the ground is dry much soil moving, manure carting and wheeling, tree 'snaring'—that is, the removal and clearing away of large branches, can be done in the easiest and most economical manner; and such work as making stakes, Pea rods, pegs, &c., can be conducted during the thaw when it is impossible to work on the ground and walks often for ten days or a fortnight together. By a little forethought in arranging work it is surprising how fully and profitably men may be employed even during a long period of adverse weather. This hint is founded on experience—experience which included mistakes of the nature indicated, and which it will be well for others to avoid. Hence this note on the eve of what looks like an old-fashioned winter."

— WRITING from Tynningham on December 14th Mr. Brotherston observes—"We have had FROSTY WEATHER about a week, and 4 inches of snow has covered the ground for the last four days. Yesterday the frost held hard throughout the day, and by 11 P.M. the thermometer was at 9° Fahr., and fell during the night to 6.5° on the scale. To-day it has not been so cold. The barometer is about 29.9", but varies. To-day's *Scotsman* reports 12 to 18 inches of snow in the Kelso district, and the Tweed hard frozen. On the Cheviots over 2 feet of snow is reported. From 14° to 17° Fahr. is the lowest degree of cold generally experienced here, so that it may be concluded the 25.3° of frost we had last night will be exceeded in inland and high-lying districts."

— THE following is Mr. W. Bardney's mode of growing sticks of HORSE RADISH 2½ inches in diameter as detailed in "The Gardener":—"Now is a good time to lift the whole stock, which we would recommend to be done annually, and lay in some convenient place that portion of it that is fit for use. In lifting, the side rootlets should be selected for replanting. Cut them into lengths 7 or 8 inches long, and all the young fibry roots should be scraped off with the back of an old knife, and then be rubbed with a rough cloth, with the exception of half an inch at the bottom, which should be left to form roots when planted. After undergoing this scraping process they should be tied in bundles and plunged in coal

ashes, or laid into the ground with their top ends exposed until March, when they should be planted in ground that has been deeply trenched and well manured in rows 18 inches apart each way. They are best planted with a dibble, and the holes filled up with light soil, covering the crown about 2 inches. Treated in this way they will be again ready for lifting by the end of November. The small pieces planted in March will by that time be clean straight sticks, 6 or 7 inches in circumference."

— WRITING to us on the WEATHER IN DURHAM Mr. Witherspoon states that "On Thursday evening the 12th inst. the thermometer was down to 6°, or 26° of frost. Friday evening the same. Saturday at 7 A.M. the thermometer stood at 6° below zero; at twelve at noon in the sun we still had 22° of frost. There is about 15 inches of snow, and the hoar frost on the trees is remarkable, and in fact beautiful. The thermometer had risen up to 12° above zero at 10 P.M. on Friday evening. On Thursday evening the thermometer in Mr. Goldsmith's garden near here fell to 5° below zero, and on the snow it was 8½° below that point. On the morning of the 13th, Mr. Swan, of Newcastle, states that the thermometer was 3° below zero in that town. I had 14° of frost in my vinery, but the bulk of the Grapes were cut."

— THE "Journal of Forestry" observes that, "Whatever the immediate cause may have been, there appears to be a general scarcity this winter of the BRILLIANT BERRIES which usually adorn our copses and hedgerows at this dull period of the year. Holly, Hawthorn, Yew, and wild Roses are all equally void of their crimson berries, and we hear from the western counties that even the Mistletoe is affected with the prevailing deficiency, and not one 'bush' in ten possesses its usual quantity of delicate white clusters of berries. This is not a cheering prospect for enthusiastic decorators of homes and churches at the approaching festive season. Without a profusion of berried Mistletoe and Holly half the enjoyment and hilarity of the occasion is lost, and heavy evergreen decorations with nothing brilliant to relieve them only add dullness and monotony to the scene."

— MR. JAMES VICK of Rochester, N.Y., refers as follows in his "Illustrated Magazine" to AMARANTHUS SUNRISE:—"It is one of the most beautiful foliage plants we have ever seen. We have been cultivating it for several years in the hope that we might see its good qualities established. We have shown it at several State fairs, and no one plant we ever exhibited attracted so much attention as this." The coloured plate represents a dwarf plant of remarkably massive appearance, and having dark foliage, the growths terminating in brilliant heads resembling Poinsettias.

PROTECTING TREES AND PLANTS.

ONE of the soundest of many sound hints that are from time to time given in "Work for the Week," I regard as that stating that if the roots of plants are well protected it is surprising how much frost the plants will "endure." These words contain much truth, and no one can err by turning the suggestion to account. Next to the importance of protecting the roots of plants and trees against frost is that of protecting their stems. In many districts the frost is now severe and may increase in intensity. The safe plan will be to assume that it will do so, and then measures that are certainly prudent will be promptly taken to limit as far as possible its injurious influence. It cannot be safe policy to act, or rather sit still, on the assumption that the winter will pass rapidly away and that no special precautions are needed to counteract its effects. If the frost should only be temporary no possible harm can be done by any protection that can be given; but, on the other hand, if the winter should prove hyperborean in character, the wisdom of having taken the best steps to meet it will be apparent for a long time after the frost has passed away.

Haybands and straw wraps are cheap and easily applied. Let the former be placed round the stems of standard Roses, especially of any that are budded with new or choice varieties; also round the stems of Peach trees and standard ornamental evergreens, such as Rhododendrons, Bays, Laurels, and Hollies. It is the stems and not the heads of trees that are most amenable to injury—injury which by prompt preservative measures of the nature suggested may be easily averted. It is not many years since a severe winter almost wholly cleared wide districts of standard Roses. This was the case both in private gardens and nurseries, and the year following other Roses of the same kind

could only be obtained at high prices from the south of England or from France. Hundreds of Roses were then destroyed because their stems were killed, many of the heads having the shoots fresh and green, and only succumbed in the spring because the food supply was cut off by the destruction of the stocks. Many must have noticed numerous instances where the roots were alive and the tops also alive, but the stems black and dead. A few haybands would have preserved them, especially if the wrapping of the stems had been supplemented by tucking a wisp of hay lightly in the lower part of the heads where the wood had become brown and hard. It is the hard exposed wood of Roses that, for some cause or other, appears much more liable to injury by frost than the younger and greener shoots.

Many nurserymen appear to have taken a lesson from the severe losses that they experienced among their standard Roses during the winter of 1860, for since then it has not been unusual for them to take up their whole stock in late autumn and lay the Rose trees in, by "the heels," so that the heads, being close together, can be easily protected. Thousands of standard Roses are probably at this moment thus sheltered from the severity of the weather in various nurseries, and no one can question the wisdom of the practice.

Nurserymen also are not deterred by a little extra labour from wrapping the stems of valuable ornamental trees with hay or straw bands, and owners of cherished specimens, and gardeners, may well follow their example. The cost of such a practice is trifling, and may be repaid fortyfold by the preservation of trees or shrubs that cannot easily be replaced. Any tree, &c., of doubtful hardiness should be protected in some way or another. It does not so much matter what the protecting material may be, the point of real importance is to apply it promptly. The stems of Vines should not be forgotten where any are exposed between the ground and their point of entrance into the house, but all such should be encased in haybands. A few stakes, and rough—the rougher the better—straw bands may be easily arranged so as to save the life of any somewhat tender Conifer or other lawn ornament, and more lowly plants and crops may be protected by dry fern, evergreen boughs, or litter.

Snow for such crops that it can cover is the best of all protectors, and when it is present men with shovels may be usefully employed in placing it where it may be needed, only moving it, however, when it is in a dry powdery state. I have often saved Lettuces, Cauliflowers, beds of autumn-sown annuals, and other flowers by protecting them with the covering that Nature has provided. Frames, too, covered with mats or straw may with advantage to their inmates have a further covering of snow. Hundreds of such plants as *Calceolarias*, *Intermediate Stocks*, *Pentstemons*, and plants of a kindred nature may be saved with the aid of snow, and I cannot too strongly urge those who have the opportunity to adopt that practice.

During the past few years the winters have been unusually mild, but on that account we must not be lulled into a sense of security that may prove false. The mild winters may only prove a prelude to weather of corresponding severity, just as violent storms and inundations often succeed periods of prolonged drought. According to the compensatory law of Nature severe winters are now due; let us, therefore, prepare for them, and then if they do not come so much the better.—A NORTHERN GARDENER.

OUR BORDER FLOWERS—SYMPHIANDBRA PENDULA.

THIS charming Bellflower is from the Caucasus, and is too rarely met with in collections of border flowers. It is closely allied to *Campanula*. It is a very attractive plant, its creamy-white flowers being very handsome, to say nothing of their peculiar form. The plant grows little more than a foot in height, the flower stems terminating in drooping spikes. It is a superior plant for the front row in the herbaceous border. It is all the better for having partial shade afforded it. Under some circumstances there may be some difficulty in succeeding with it, but when its requirements are supplied it affords a grand display on a moderately moist partially shaded rockery during midsummer, and continues in bloom for a length of time. It is a fine plant for exhibition; easily increased by division, which is best done after its flowering. A surplus stock should be kept, as the plants will sometimes disappear unexpectedly. They thrive in a compost of good sandy loam, peat, and well-decayed vegetable matter in equal quantities,

with a sprinkling of coarse grit and charcoal dust, made firm in planting.—*VERITAS*.

CAPE HEATHS.—No. 12.

DECEMBER.

IN these our concluding notes upon *Ericas* we have introduced a few elegant but much-neglected species without at all taking into account their time of flowering. They are not kinds that are chosen by those who grow for exhibition purposes; but we venture to assert without fear of contradiction that all would be welcomed by any amateur who seeks to adorn his greenhouse with beautiful and interesting flowers. It has been written of the amateur plant-growers that they "do not care for Heaths," but our own experience and observation directly contradict such an assertion, for we never heard this remark from either sex. True, many have been deterred from entering upon their cultivation by the bugbear which is always thrown around these beautiful plants by many professional gardeners, who tell their amateur friends, with such a profound look and mysterious shake of the head, that *Ericas* are so very difficult to grow and they will never succeed, but we would urge our amateur plant lovers to try them. We acknowledge and know full well there are difficulties attending their management, and so there are with all other plants more or less; but there is no secret about the growing of Heaths that cannot be mastered; and for general directions we should say, Drain your pots thoroughly, pot firmly in good sweet peat soil, do not add too much sand as it only impoverishes the soil, do not overpot, water freely but judiciously, keep a free and dry atmosphere about the plants, and should mildew show itself immediately apply the remedy we have already given. Plants treated in this manner will, however, not suffer much, if any, from this disease. Other and minor details in their management will suggest themselves to those cultivators who look upon the attentions their pets require as a labour of love, and their care will be rewarded by a rich return of beautiful flowers, which last long in full beauty, and the like of which is not to be obtained from any other genus of plants.

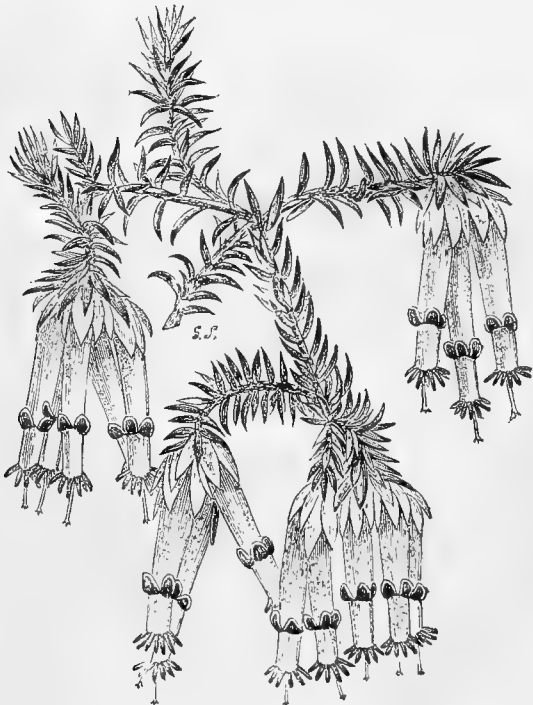


Fig 69.—*Erica Banksiana alba*.

Erica Banksiana alba (fig. 69).—A dwarf-growing pretty plant, having a beauty entirely its own. Leaves arranged in threes, dark green. Flowers terminal upon the small branches, produced singly or in pairs; calyx imbricated; corolla long and cylindrical, white; stamens long, much exserted and brown, and add much to the general effect.

E. lutea.—A dense-growing species. Leaves small, linear, and quite smooth, light green. Flowers mostly in pairs, soft yellow, produced in the greatest profusion on the points of all the little branches.

E. halicacaba.—This we cannot recommend as a very showy species; nevertheless it is a most interesting kind, dense and branching in habit, with long and closely-set dark green leaves. Flowers pendant, large, and inflated, pale yellow.



Fig. 70.—*Erica buccinaeformis*.

E. buccinaeformis (fig. 70).—Elegant, somewhat slender-growing. Leaves linear, closely set, soft green. Flowers mostly in twos and threes, long and tubular, rosy red tipped with green; stamens exserted.

E. moschata.—An erect-growing species with slender branches, and short linear light green leaves. Flowers in threes or fours, large, ovate, with a suddenly contracted neck and recurved limb; pale yellow, yielding a Musk-like fragrance.

E. urceolaris.—Leaves long, arranged in threes, dark green. Flowers in umbels, erect, white, and borne in great profusion. A very ornamental plant.

E. purialis.—A dense-growing much-branched plant, with broad, short, bright green leaves. Flowers globose, mostly in threes, rosy purple, and produced in such profusion as to give to each branch the appearance of dense umbel.

E. Sebana rubra.—The varieties of *Sebana* are most interesting, eccentric in shape, and with such sad combinations of colour they rivet the attention of the most obtuse observer. They are strong-growing plants and profuse bloomers. Leaves dense, mostly in threes, linear acute, dark green. In the present variety the large calyx is straw colour; corolla cylindrical, deep red; stamens much exserted, chocolate brown.

E. Sebana fusca.—In this variety the flowers are longer than in the preceding, and the corolla differs in being a pale brown.

E. Sebana lutea.—This differs in the corolla being yellow, otherwise it resembles in habit and appearance the variety *rubra*.

E. barbata.—A very distinct and ornamental species. Leaves large, ovate, arranged in fours, dark green, and profusely furnished with long hairs. Flowers urceolate, hairy, white, produced in umbels terminating all the branches.

E. fragrans.—A slender-growing elegant little plant. Leaves linear, smooth, arranged in threes, light green; calyx large, same colour as the flower, which is ovate, mostly in pairs, on the ends of all the branches; light purple if exposed to the air, but white indoors. Delicately perfumed.

CENOTHERA TARAXACIFOLIA.

THE Dandelion-leaved Evening Primrose is of prostrate but not very compact habit, and is highly ornamental. The flowers

are large, pure white at first, but afterwards changing to pale pink or rose. It is eminently a night-bloomer, few flowers being found expanded during the day, but in the twilight

every plant seems covered with great saucer-like discs 4 or 5 inches across. Not being fastidious as to soil it is easily cultivated, and can be increased by careful division of the roots



Fig. 71.—*CEANOTHERA TARAXACIFOLIA*.

in spring. Seed also germinates easily if not old, and a stock is best raised by this method. Not being very neat it is best planted where it can ramble at its own will on the rougher parts of the rockwork, or in some roomy border where extreme dressiness is not looked for. It also shows to advantage when

used for surfacing large beds in which tall plants of erect habit are grown, as Roses, Dahlias, scarlet Lobelias, &c. Flowers from July to the end of September, continuing onwards occasionally until nearly Christmas in southern districts and in mild seasons. This good old plant used to be more extensively

cultivated twenty years ago than it is now, but there are signs of its returning to public favour. Native of North America.—R. D. TAYLOR.

CUCUMBERS AND MELONS.

"BOTH Cucumbers and Melons are given to degeneration," is a remark often heard and seldom contradicted, but the cause of the evil does not appear manifest to all. Is it not a consequence of in-and-in breeding? A variety impregnated wholly by its own pollen for several consecutive generations results in enfeeblement of constitution and a consequent depreciation of produce. This is, I think, incontestable. Plants can only be kept healthy and capable of producing a maximum of produce of the greatest value by the introduction of fresh blood. In all crops there are degrees of excellence. To save seed from the superior plants is to secure a progeny of similar superiority, tending to still further improvement; seed of inferior plants affording plants correspondingly inferior. Negligence in the selection of parts for the continuation of plants leads also to degeneracy, as does also inferior culture, superior culture affording in many instances "sports" superior to the originals.

Whatever is lost by in-and-in breeding may not in all instances be restored by fresh pollen, but much may be done by impregnating a weak plant with the pollen of one showing undue vigour; the progeny will then be invigorated. Health and disease in plants are as much promoted by weakness as by grossness arising from poverty of culture on the one hand and high culture on the other, and those results are transmitted by the pollen. A variety inherently weak cannot be restored to vigour without a change of blood, and the nearer the species is approached in obtaining it the greater will be the vigour implanted in the progeny.

Cross-breeding has been carried out to such an extent in Cucumbers, also with Melons, but not to nearly the same extent with the latter as former, as to be little less than in-and-in breeding owing to the slight variations in the plants operated with. The object in raising new varieties appears to be size, everybody seeking to have fruit longer than somebody else. No matter how gross a variety may be, it must be crossed with another variety equally gross with a view to the securing of long Cucumbers. The questions of flavour and fruitfulness appear to be ignored, the chief aim apparently being the production of big Cucumbers and monster Melons. Cucumbers and Melons producing large fruits are generally shy bearers, which shows that large stature and robustness result in constitutional sterility. This accounts for high-bred Cucumbers being shy seeders, and suggests the necessity not only of care being taken to keep the variety true, but of experiments being made to cross it with a dissimilar yet desirable variety in the hope of obtaining a fresh variety that will supplant both parents. In-and-in breeding may be carried to an extent frustrating the all-important object of reproduction, but comparatively sterile plants may usually be made to produce seeds by fertilising them with pollen from some of the more original types of the species. The more constitutionally hardy the female parent is the finer is the offspring. Therefore, in crossing Cucumbers or Melons robustness in the female should always be selected to impart any desired vigour to the progeny, and *vice versa*.

If a green-flesh Melon, say Beechwood, be crossed with a scarlet-flesh—Read's for instance, it does not follow that the progeny will be all after the male—*i.e.*, scarlet-fleshed, but a majority of the issue follow the male with some increase in the size of fruit, but the minority following the female are marked by still greater robustness of plant and increased size, and more prominent netting of fruit. This points to the wisdom of selecting robust hardy plants as seed-bearing parents, and high-bred plants for males. The former will tend to increase grossness and concomitant barrenness, not perhaps in fruitfulness but in seed-production, with no improvement of constitution.

The crossing of Scarlet Gem Melon with Little Heath would not add anything to the constitution of the former; but cross Cantaloupe with Scarlet Gem, or Rock with Colston Basset, and a marked improvement is produced at once in the constitution of the progeny. By crossing this progeny with Moreton Hall or Read's in one case, and Pine Apple or Golden Perfection in the other, improved flavour is approached with a certainty; yet every approach to flavour results in the diminishing of the size of the fruit, for whatever may be shown to the contrary by the number of seedlings certificated of late years, I submit that there is not only an advance in size but a decided increase of

coarseness of flesh, with a lack of firmness or crispness of flesh and briskness of flavour. A majority of our present race of Melons are flat, lacking the tender melting flesh and sprightly perfumed flavour of such kinds as possess them in the highest degree—*viz.*, Egyptian, Pine Apple Gem, and Scarlet Gem. I shall possibly be considered as being extremely prejudiced against innovations. The fact that existent varieties are speedily superseded by seedlings is proof conclusive that their merits are of a transitory character. Without an influx of fresh blood the variety, whatever it be, soon begins to degenerate, and can only be kept up to a high standard by careful selection and superior culture.

By directing attention to the wearing-out of old varieties my object is to direct attention to, and to suggest a remedy for that fell disease so fatal to Cucumbers and occasionally Melons. Of the disease I have had no experience, which I think is solely attributable to my practice, adding the new varieties as they are sent out and discarding the old, therefore operating only with fresh blood. What I have seen of the disease leads me to form the opinion that it is due to high breeding and repeated impregnation with pollen from the same plant. I have repeatedly noticed that with a plant having the male and female organs in the same flower the potency of the pollen is more decided from another flower on the same plant, and more decided still in that taken from a different tree. The pollen of a weakly blossom is in effect very slight upon the pistil—often inert; but the pollen of the weakly blossom is more potent applied to the stigma of a gross blossom of a very vigorous tree, the pollen from the latter acting advantageously on the weaker blossom of the other tree. Weakness on the one hand and grossness on the other are thereby modified. In crossing Melons and Cucumbers I have noticed a similar coincidence. Very vigorous plants have corresponding blossoms male and female, and are not readily impregnated with pollen from the same plant, such plants being bad setters, a weakly plant not always setting fruit freely. In both instances foreign pollen generally secures a good set, and the nearer it is obtained to the species the more marked is the improvement of constitution of the progeny, increased hardiness as well as seed-productiveness being promoted.

The constitution of Cucumbers has been so weakened by in-and-in breeding as to result in barrenness, many of the high-bred sorts seeding very sparingly, some varieties not being continued true except by cuttings. If I am warranted in the foregoing deductions, which are the results of experience, constitutional vigour can only be restored by a return to a parent nearer the species. We have, it is true, no want of luxuriance in the plants that give fruit comparable in size to hedge stakes, but such fruits are limited in number and produce few seeds. We have, too, varieties affording useful fruit plentifully, but these for the most part of the Sion House type have constitutions little better than the large-fruited class, and both types may be improved by judicious crossing.

I have had the pleasure of trying three varieties all with admirable constitutions. They were kindly sent to me by the raiser, Colonel Taylor, Montrose, Weston Park, Bath. This gentleman, acting on the idea that fresh blood only was required to restore the constitution, selected Lord Kenyon's Freebearer as the female, with, I think, Sion House as the male parent, the result being a hardy frame Cucumber 12 to 18 inches in length, with a short neck, deep green in colour, with few spines, remarkably free-bearing. It is superior to any variety of the same type in hardiness, productiveness, and quality. It is named Montrose Seedling, coming nearest to Duke of Edinburgh (Munro's), but superior to that kind; in fact I consider it the best of the everyday Cucumbers for every purpose. It succeeds well in a frame without heat after the middle of May.

No. 2 is from Lord Kenyon's Freebearer crossed with Duke of Connaught (Sutton's). In this we have the constitutional hardiness of the female parent, and a fruit as near between the two parents as possible, not a little of the vigour of the male being imparted to the offspring. It is not so hardy as Montrose Seedling, not doing so well under frame culture, but is a paragon for house work, and will prove a powerful rival to Telegraph, which it much resembles, but is of much better flavour. It has a short handle, is straight and even, in shape like a gun barrel, deep green in colour with blue bloom, carrying the flowers well and with few spines, with length enough for the most fastidious, and a shy seeder.

No. 3, Montrose Seedling crossed with Duke of Connaught. In this variety we have the hardy constitution of the female without any of the grossness of the male parent, the free-bear-

ing property of the female, and a fruit of the size of the male 20 inches and more in length, short neck, regular in thickness, few spines, deep green skin, very handsome, and very good. It succeeds admirably under frame culture, and is only a little less hardy than the ridge varieties. Such a valuable trio seldom fall to the lot of a raiser at the onset, which shows that proceeding upon the principle of selection is preferable to the haphazard system of crossing, which results in varieties the merits of which principally rest upon the superior culture bestowed upon them so as to bring them to perfection.—G. ABBEY.

HEATING BY PARAFFIN STOVES.

I USED a small stove all last winter and it never harmed any plants in the house, and my house contains a great variety. This year I made a larger stove from the plan of your correspondent "E. H." at page 261 of this Journal for this year. It stands 21 inches high, and is 6 inches in diameter and holds one quart of oil. The oil I burn is 1s. per gallon, and I was able to keep up the temperature of my house (a lean-to 10 by 7) to 42° during every night this week, without any covering over the house, even when there has been from 10° and upwards of frost. I keep the wick trimmed, fill up the oil once a day so that the lamp may not burn out, and keep the lamp turned up to one height.—F. W.

[Our correspondent "E. H." has informed us that he has succeeded perfectly with a bed of Melons raised and ripened entirely with a paraffin stove for supplying artificial heat.—Eds.]

NOTES ON GRAPES.

I FOR one would like to see the character of every Grape in cultivation discussed in the *Journal of Horticulture*. That such a discussion would prove interesting to all and instructive to many there need be no doubt, as there is no plant cultivated under glass to which so much attention is paid at the present time as to the Grape Vine. To set the ball rolling in the matter suggested, I will state my experience with a pretty extensive collection of Grapes.

It has often been asserted that Black Hamburgh and Muscat of Alexandria are the two best Grapes in cultivation. In this I fully coincide, especially in the case of the Hamburgh; but the Muscat is only a Grape for those experienced in Vine-growing, as it will not do well with either the ordinary attention or the moderate temperature sufficient for the Hamburgh. In these respects it is not the best white Grape; with plenty of heat and good management it is.

Respecting many new Grapes I think they are like many new boilers, which make their *début* as being something to surpass everything else, but in a year or two they are heard little of. I believe Pearson's Golden Queen an exception to the above rule. I have grown it since its very first appearance in public, and I know of many others who have done the same; and in every instance it has given perfect satisfaction. Amongst its many good qualities, one of its greatest is its hardy constitution and the very free way in which it grows. It is just the Grape, I should say, that would do admirably in an unheated house, and in such a house I mean to try it. Briefly, it grows well, forms fine-shaped bunches, sets well, ripens thoroughly without any trouble, becomes of a splendid golden colour, is of excellent flavour, and lastly it keeps intact when others around it can hardly be kept from decaying.

Madresfield Court is still sustaining the good character it showed at first with many growers. It is a Grape well worth growing to supply fruit from July to October. It has handsome bunches and berries, and fine flavour. It has also the means of growing well; and without this tendency Vines are next to worthless. I have never found it showing any inclination to decay as it has been said to do with some cultivators. What has become of Waltham Cross Seedling Grape? I had it when first sent out, but the berries showed such a tendency to decay before it could be used that I have not had it for some years. Information on this Grape is wanted. Let me put the same question about White Lady Downe's. This Grape was to take the place of all other late white Grapes; and wherever there was a house filled with Black Lady Downe's it was expected that the half of them would be rooted out to give place to the White, then there would be a supply of Grapes in two colours as late as anyone chose to keep them. Has this come to pass? Not that I am aware of. Indeed I cannot name a place where White Lady Downe's is cultivated, and

my acquaintance with Grape-growing places is not very limited. I saw the Grape some years ago, and then did not consider it either good in colour or flavour, and it had a bad habit of producing small stoneless berries. Black Lady Downe's is not altogether free from this defect. Its late-keeping quality is the best property this Grape possesses. Its thick skin is not pleasing, and on this account it is not being quite so generally planted as it was. Gros Colman is one that is taking its place a good deal, and its thin skin and fine appearance qualify it for its position. With us it has always been best when it was ripened in September and used from the middle of November onwards.

Dr. Hogg and Duchess of Buccleuch are about very similar as regards merit. The Doctor is the most to be preferred of the two, as it is of equal flavour and never shanks nor cracks. These and the Grizzly and White Frontignans might all be classed together for small size of berry and fine flavour.

Buckland Sweetwater is a Grape seasonable from May until November, with qualities much above the average. It does not require much heat; bunches and berries large, colour good, flavour fine. Foster's White Seedling possesses the same character. Golden Hamburgh is more tender and less worthy; ditto Golden Champion; and I can give no better verdict about Duke of Buccleuch.

Gros Guillaume is a fine winter Grape when it colours well; and to insure this it must not be overcropped. Black Alicante is a useful, easily managed, free-fruited late Grape, which, I presume, no person can say much against. Calabrian Raisin and Trebbiano are both useful late white Grapes, superior to Syrian, Royal Vineyard, Muscat Eschollata, or Tokay; but the latter may be placed after Trebbiano. Mrs. Pince is a good late black companion to the Alicante. Venn's Black Muscat I take to be the same as my Muscat Hamburgh, and neither of them is worth planting more than one cane of at the most.

At the present time my selection of the most useful Grapes would be for from April to October—*Black*: Black Hamburgh, Madresfield Court. *White*: Buckland Sweetwater, Foster's Seedling. From October to April—*Black*: Gros Colman, Alicante, Gros Guillaume, Lady Downe's. *White*: Pearson's Golden Queen, Muscat of Alexandria, Calabrian Raisin, Trebbiano. To be planted in proportion to the order in which they are named. Half a dozen good early and late Grapes are often more serviceable than three times as many different varieties.—A KITCHEN GARDENER.

NOTES ON A CONSERVATORY.

THE fine large conservatory adjoining the residence of Colonel Lloyd, Lillesden, Hawkhurst, is at all times worthy inspection, and especially so during the late autumn and winter months. The site itself is very good, commanding as it does a view of the fine undulating pleasure grounds in which it is situated, and also one of the many bits of picturesque scenery for which Kent is famous. It is a plain rectangular building with a three-quarter span roof. Two large beds are in the centre, and a narrow staging runs round the front of the house, which is usually kept filled with florists' and other flowers interspersed with foliage plants, and fringed with *Isolepis*, *Lycopodium*, *Panicum*, &c. The beds are filled with specimen Palms, Ferns, *Dracenas*, *Camellias*, *Abutilons*, and other choice foliage and flowering plants. *Yucca aloifolia variegata* is well grown and in good numbers, and is a fine decorative plant. The *Camellias* mostly planted out were remarkably healthy and well set with buds, some flowers of *Alba plena* being already expanded. Mr. Channing, the able gardener there, uses the knife freely among *Camellias* should any of them be at all unshapely, and others would do well to follow his example. Among the above were interspersed well-flowered standard *Chrysanthemums*, standard *Pelargoniums* (a good way of growing this class of plants for similar work), *Celosias*, *Salvias*, &c. The plants are all well grown and of good shape, consequently there is no necessity to arrange them closely to hide defects, which is too often the case in many conservatories. A good margin of *Lycopodium denticulatum* is planted round the house, with the exception of the ends. These are filled with *Sedum acre elegans*, and in this is dotted a double line of *Nertera depressa*. These were well berried, and we never saw them used with better effect.

The pillars and girders are covered with climbers, which are always well managed at Lillesden. *Habrothamnus elegans* will be a beautiful sight at Christmas, and a good-sized plant of *Bougainvillea glabra* trained up the back wall and on to the roof was flowering profusely for the third time this year, the colour

for the time of year (late in November) being very good. On this same wall was a healthy plant of *Luculia gratissima* which promises soon to flower abundantly, also *Camellias*, *Heliotropes*, *Pelargoniums*, &c., which materially contribute to the supply of cut flowers. To use with these, *Adiantum cuneatum* and *for-mosum* are grown in large numbers, some of the plants being very large indeed, and of course are equally useful and effective used among the other plants.

One of the vineries at the time of our visit was filled with *Dendrobium nobile*. There were plants of all sizes, all alike giving promise of freely blooming whenever introduced into heat; and what is more useful than this *Dendrole* where there is a demand for choice cut flowers? Mr. Channing's very successful mode of treating these plants will be given in another number of this Journal.—W. IGGULDEN.

NOTES ON VILLA AND SUBURBAN GARDENING.

THE weather must in a great measure decide the operations to be performed in the kitchen garden department. Should the frost continue severe it will be necessary to give an extra coating of protection to pits and frames; the lighter and drier the covering is the less will the frost take hold of it. Celery should be covered with bracken or other litter, for if the leaves and top of the stalks are frozen the decay will spread downwards and do great injury. Seakale, Rhubarb, Artichokes (Jerusalem), and Parsnips should also be covered with litter, which not only protects them from being injured by the severity of the weather, but enables them to be easily lifted for forcing or culinary purposes.

Prepare fermenting material for hotbeds by mixing with the leaves collected some long stable manure. This should be well shaken out and thoroughly mixed with the leaves and left massed together until it is wanted for use. Such a heap is valuable for forcing of Potatoes, Carrots, Radishes, or for the making of a bed for Cucumbers. Potatoes stored away either for seed or for the supply for the table ought to be looked over for the removal of any diseased tubers, and the store must be sufficiently protected from frost.

The pruning of all kinds of fruit trees and bushes may be completed if the weather is not too severe. A little frost renders the ground clean for the operator, but we prefer warmer days as a rule for pruning, yet where there is much of such work to be done it is sometimes necessary to do it during the cold winter days. Peaches and Nectarines on walls may be left until the early part of the new year, when it is advisable to unfasten them and allow them to remain from the walls as long as it is possible in order to retard their time of blooming. Plums do well on the spur system generally, and should have all natural spurs retained. Cherries bear their fruit in exactly the same way, but with Morellos the wood oftentimes becomes so thick as to exclude light unless judiciously thinned out from the centre of the bushes. Black Currants produce their fruit generally from the young wood of the past season. Young growths, therefore, should by all means be encouraged, merely removing some of the old shoots to open the centre of the bushes, and shortening the points of straggling shoots, which is all the pruning the bushes require. Red and White Currants bear their fruit principally on spurs, it is therefore advisable to prune these much closer than the Black varieties. Gooseberries carry their fruit in a similar manner, producing it on both the spurs and on the past summer's growth; therefore retain a sufficient number of young shoots at moderate and regular distances apart, keeping the centre of the bushes open that the sun and air may act on as large a surface of foliage as possible.

Apples and Pears as espaliers produce their fruit on spurs. The branches should be trained horizontally along the side of walks, &c., and should have all foreright shoots and large, rugged, projecting spurs cut away, being careful to preserve a sufficient number of healthy fruit spurs for next season's supply. Standard, bush, and pyramid Apples and Pears require very little pruning except to regulate any unevenness in growth that may arise, for a too free use of the pruning knife doubtless causes more leaf-growth than fruiting wood. In all cases of pruning cut to an outer eye in order that the new growth may be naturally placed on the outside, and thereby make a more open growth that the light can penetrate among the branches more freely.

DRAINS.—It often happens that where common drain pipes are laid across lawns or in garden paths, that in the course of a few years they become choked, and the drainage of the ground is impaired thereby. The roots of Elms and such-like trees occasionally gain access to the pipes, and in a very short time completely stop the drainage. Whenever any indication of this kind exists there is no other remedy but to take the drain up the whole length that it has become choked, clear the roots or soil out, and relay the pipes. We have in extreme cases, where trees plentifully abound, put a mixture of tar and gravel over the pipes, which has had the desired effect of keeping the roots out. The present will be found an admirable time for any alterations of this kind; and unless in the case of very shallow drains, the work can

be done during severe frosts. Drains should always run along the centre or sides of garden paths with plenty of gratings to quickly carry off the surface water that rapidly collects during heavy showers of rain. In flat level places the gratings will not be required so plentifully as in hilly or uneven surfaces. These "eyes" or gratings are placed over small wells formed generally of bricks, and about 1 foot or 18 inches deeper than the outlet of the drain into which they enter. It is important that these catch-pits be cleared out regularly; if this is neglected the sand and gravel accumulate and choke up the pipes. In laying drains it is always well to make the bottom for the pipes to rest hard and firm, otherwise in course of time the soil underneath may sink, and an irregularity be formed in the drain. This will be particularly the case in newly made grounds, and cannot be too carefully provided against. A slight and continuous fall should be allowed for the free transit of the water. For garden paths 3 or 4-inch-bore common unglazed pipes are sufficient, but for more particular purposes the glazed socket pipes will be found much superior. All drains should have a quantity of open material placed next to the pipes, such as clinkers, brick rubbish, or burnt clay if obtainable; and in heavy soils, if none of these are to be had, we are careful to place the top spit with the turf downwards next to the pipes. The surface of the drains must be beaten down firmly, especially across lawns, or it will sink, and the turf have to be raised again. A very good plan is to leave the surface slightly raised to allow for sinking, merely placing the turves temporarily on the top for a time until all fear of sinking is over.

WORK FOR THE WEEK.

KITCHEN GARDEN.

DURING the presence of snow and frost combined the ordinary routine of this department is interrupted, yet there is much useful work which may under such circumstances be performed. Pea sticks may be cut and prepared, stakes made in sizes for various purposes, along with pegs for layering and twigs for securing the summer growths of wall trees such as Peaches, Nectarines, and Morello Cherries. The young shoots or clippings of Privet hedges are most suitable, stripping off the leaves, tying the shoots in bundles at both ends to straighten, and placing them in a shed where they will become hardened. Roots in store-houses should have the needful attention both in sorting them and making them secure. Emptying pits of decomposing material and the turning and mixing of compost heaps will be suitable employment in severe weather. The filling of the ice-house demands attention at the earliest opportunity. In the old-fashioned egg-shaped wells sunk in the ground on the side of a hill, or with a mound of earth raised over them and trees planted so as to afford shade, ice keeps remarkably well if efficient drainage be provided and the drain is properly trapped, a floor of spars or battens being at the bottom for the ice to rest upon, thereby allowing the water from the melting ice to pass away freely. Faggots are sometimes used for the floor of the ice-house, but a floor formed of battens is better. It is necessary that the ice be broken small and be made very firm. A little clean dry straw may be placed against the sides of the house, some thinking the ice keeps better, but we do not employ any straw at the time of filling, finding the ice keeps better without it. In the case of damp walls there is an advantage in a thin lining of straw. It is desirable to have the house opened during the prevalence of frost before the ice is put in, the draught through drying it and lowering the temperature of the surrounding surfaces.

Forcing Department.—Advance successional crops of Asparagus, Seakale, and Rhubarb according to the demand, making preparation of fermenting material for succeeding supplies. Water abundantly when required the beds of Rhubarb and Seakale in Mushroom houses, and afford ventilation liberally to Asparagus in bearing whenever the weather is favourable. Lose no opportunity of ventilating Lettuces in pits where heat is applied, also Endive in such structures, it being more safely wintered and blanched in pits where means are provided for excluding frost. Make up beds of leaves and stable litter mixed in pits or frames for Potatoes, also for Carrots and Radishes, seed of which may be sown in alternate drills 4 inches apart, employing fine rich soil. When the plants appear plenty of air must be admitted. French Breakfast and Wood's Frame Radishes, with French Forcing Carrot, are the most suitable varieties for forcing. Sufficient sets of Potatoes should be provided for planting by inserting them in leaf soil in boxes in a temperature of 55° to 60°, from which they may be transferred to the beds prepared for them, planting the sets in rows 15 inches apart and 9 to 12 inches asunder in the rows. From 6 to 8 inches of turfy loam and leaf soil in equal parts should be placed upon the beds, planting the tubers about 4 inches deep. Lettuces and Cauliflowers in cold frames or under handglasses will not suffer if the coverings or snow remain on for several days provided the external air be at or below freezing, and if the plants become frozen they should not be exposed until a thaw sets in. Cauliflowers and autumn Broccoli laid in pits with heads in a fit or advanced state for cutting must have sufficient protection against frost. Sow French Beans at intervals

according to the space and requirements. If large requirements have to be met, a low span-roofed house with a border on each side efficiently drained and having a depth of 10 inches of rich light soil will give fine rows, yielding abundantly provided proper attention is paid to watering, and occasionally mixing with the water a little guano. The beds ought not to be more distant from the glass than 2 feet 6 inches, and the house a light one with means of affording a temperature of 60° to 65° by day in dull weather and at night, except in severe weather, when a decline of 5° may be allowed; 70° to 75° by day with sun heat and moderate ventilation. A few roots of Tarragon and Mint should be introduced to a vinery or other house where forcing is being carried on. Mustard and Cress sow at intervals according to the demand. Introduce Chicory to the Mushroom house for blanching, or any dark place will answer where there is gentle heat.

FRUIT HOUSES.

Cherry House.—The house for affording ripe fruit from the middle of April should now be closed. Employ no fire heat unless it be necessary to prevent the temperature falling below 35°, not exceeding 40° at night by artificial means, and 50° in the daytime, being very sparing of fire heat at the commencement of forcing. From 55° with sun heat ventilate freely, avoiding at all times a confined atmosphere. The trees and all available surfaces of the house should be sprinkled or syringed early in the afternoon of fine days, along with a gentle damping in the morning, but in dull weather only damp the trees, &c., occasionally or when they become dry. The border must have water to bring it into a thoroughly moist state, and trees in pots if at all dry will require repeated supplies of water to secure the thorough moistening of the soil to the base of the pots. Plums being amenable to the same treatment as Cherries, the same remarks apply to both.

Figs.—Early Figs are best secured from trees in pots, as a slight warmth at the roots is highly beneficial; but even this has its disadvantages, as when the heat at the roots is 70° or more during the early part of the forcing process the growth is too rapid, therefore see that the heat at the base of the pots is not more than that until the leaves are unfolding, when the temperature may be 75° or even 80° at the base of the pots. The temperature of the house should be increased gradually to 60° at night, 65° by day by artificial means in severe weather, 5° more in mild weather, 70° to 75° with sun heat and moderate ventilation, closing at 75°; but be very careful not to bring on the growth too rapidly, especially in dull weather, as foliage produced under such conditions is not of stout texture, but thin and liable to scorch under bright sun, and to invite red spider. Water in a tepid state must be applied to the roots as required, and the trees and house must be syringed morning and afternoon so as to have the foliage dry before night-fall, damping the house later in the day if the atmosphere has become dry. Houses which are to be started early in next year should have the frost merely excluded now, completing the needful operations in cleaning, pruning, dressing, and tying the trees in later houses.

Vines.—The inside border of the earliest house having had a good soaking with water at a temperature of 90° when the house was closed, and a bed or heap of fermenting materials placed within the structure, the buds will be swelling fast, but do not be in too great a hurry in increasing the temperature by artificial means; the fermenting materials being turned over, a part each day, and a little fresh sweetened material being added, a certain amount of steam will be given off highly favourable to the Vines breaking evenly and strongly, the young shoots luxuriating in a soft genial atmosphere. Remove the foliage from late Grapes as fast as possible, cutting off all laterals below as well as above the fruit. This will apply more particularly to young Vines and such as have not ripened the fruit until very late. Any Vines upon which the foliage is off should be pruned as the Grapes are cut, which will more effectually secure rest. Heavily taxed Vines cannot rest too long. Any outside borders not yet top-dressed should have a covering of manure at once, and in fine weather point over or loosen the surface, and afford a dressing of turfy loam with the grass reduced with a twentieth of half-inch bones intermixed, and again cover with litter or some other protective material. Not infrequently the surface of the border forms into a crust of hard inert soil. This should be removed down to the roots and replaced with fresh compost, which will be advantageous, encouraging them nearer the surface. A covering of leaves with litter over them to keep them from being displaced by winds should be placed over the border, but not so deep as to heat, which is more injurious than otherwise for Vines not required to be started for some time as yet.

Peaches and Nectarines.—Except for very early work the forcing of trees in pots is not advisable, as they do not afford such fine fruit as trees planted out and trained to trellises where they can have plenty of light, but a few trees in pots afford very acceptable early fruit, and that to the advantage of the planted-out trees which need not be started so early. If the pot trees have a light airy house or pit with the convenience for making up a bed of leaves with about a third of stable dung and well sweetened, the pots being plunged in the bed, taking care that the heat at the base of the pots does not exceed 65°, they will root in the material,

the heat inducing free root-action and securing free swelling of the buds and young fruit. Though there is an advantage in the gentle warmth at the roots, it is not, however, indispensable. Failure with trees for early work arises chiefly from the trees in pots not having been prepared for the purpose—i.e., grown-on in heat the year previous so as to acquire an early habit for forcing early in the year. Trees for that purpose should be potted in early autumn and grown in heat from February. When the trees in the earliest house are in blossom damping should be resorted to only on bright days in the morning and early in the afternoon, avoiding a close moist atmosphere, ventilating freely whenever external influences admit, leaving a little air on constantly, maintaining a temperature of 55° by day, increasing the ventilation gradually to 65° with full air, closing at 55°; 45° to 50° being a suitable night temperature, but 5° less in severe weather is better than firing too hard.

PLANT HOUSES.

Greenhouse.—For affording a display of bloom no plants surpass the different varieties of *Azalea indica*, they being so accommodating in flowering at an early or late season; and the ease with which the plants are cultivated, provided they are kept free of insect pests, renders them all the more valuable. They suffer, however, in their resting season from being kept too dry, while they start into growth instead of flowering if kept too warm and moist. They should never lack proper supplies of water at the roots, and if they are kept at from 40° to 45° by artificial means they will be freer from insects, and not being unduly started into growth will flower more satisfactorily. Thrips are their great enemy, and though the low temperature to which they are subjected lessens the pests their eggs remain, only waiting an increase of temperature to be brought into life. Fumigation destroys the insects but not the eggs; besides, unless the plants have been grown in a light house the foliage is so tender as to be seriously damaged by fumigation strong enough to kill the insects. Dipping small or syringing large plants with tobacco water destroys both insects and eggs. One pound of tobacco cord should be boiled in a gallon of water for a hour, with 1 oz. of soda and 2 ozs. of soft soap, the latter being added while the liquid is hot; strain, and when cool it is ready for use. Any plants too large for dipping may be laid on their sides over a vessel large enough to receive the liquid as it is syringed on the plants, taking care that the dressing reaches every leaf. The plants whether dipped or syringed must remain on their sides until dry, so as to keep the liquid from running down to the roots. This cleansing should be done before the young wood buds begin to push, and in the case of badly infested plants repeated in a fortnight. Plants for forcing should be well dressed before being placed in heat. Many other plants may be freed of thrips by the same means, but the solution must not be used upon plants with young tender growth. Camellias that have not begun to swell their buds for flowering should have the leaves sponged to free them of dust or other accumulations. If there is any scale remove it with a rather hard brush—a tooth-brush answering perfectly. If any plants are not so forward for flowering as is desirable a slight increase of warmth may be afforded, but it ought not to exceed 50° by artificial means, and even at that temperature if the air be dry the buds may be cast, whilst if the buds are backward and moisture accompanies the heat the plants break away into fresh growth. Weakly plants swelling their buds may be assisted with weak liquid manure, not allowing any plants to become dry at the roots, which are always more or less active, and at no time is water more required than when the buds are swelling.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense. Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

STRAWBERRIES IN POTS (A.B.).—The plants placed in the greenhouse at the end of the year not thriving, whilst those placed in the house at a later period do well, shows the crowns to be indifferently developed, owing probably to the plants not being potted as early in the season as possible so as to make and mature good growth; hence they have not sufficient time to rest, the trusses consequently coming up weakly, and the flowers going blind from being excited into growth too soon and too quickly.

ANGELICA (J.P.).—Being a native of this country it is perfectly hardy though made somewhat tender by cultivation. It grows well in any good garden soil, but succeeds best in moist cool situations. Being a biennial the seed should be sown when ripe or in August, covering it lightly with fine soil, watering frequently until the plants are up, and afterwards in dry weather. The plants may be thinned to 2 feet distance apart every way or be transplanted that distance in the following March, keeping them clear of weeds and watering abundantly in dry weather. In the following May or

June the stalks will be fit to cut, which must be repeated every year at that time so as to keep the plants from flowering; they will then continue for some years, but if allowed to seed they perish soon afterwards.

ECHEVERIA RETUSA AND GLAUCA (H. P. S.).—Though allied to the House-leek they are distinct from that plant, and, unlike it, are not hardy, requiring to be kept in a house from which frost is excluded, in a position free from drip, and with no more water than to maintain the leaves plump, it being better to err on the side of dryness than overwatering. *Spiraea* and *Hoteia japonica* are identical.

EVERGREEN OAK (G. R. A.).—The sprays sent appear to be those of the Anstrian Oak, *Quercus austriaca*, which retains its foliage throughout the winter. The foliage is glossy, deeply cut, and handsome.

CRYPTOMERIA ELEGANS (J. E. L.).—It is quite usual for this elegant Conifer to change its colour and become bronzy in winter. Your young plants will no doubt pass through the winter safely without protection and will resume their green garb in the spring.

FLUE-HEATING (D. B., Brizton).—We have seen flues formed of large drain pipes which have answered very well, but as a precaution against the pipes cracking we advise you to have the flue of bricks for the first 6 feet from the fire. Hot-water is preferable to flue-heating.

FORCING POTATOES AND RADISHES (A Beginner).—We presume you have some kind of fermenting matter to afford a gentle warmth, and we should place it in the pit at front to the depth of a foot, and at back 24 inches deep, which will leave you a foot to the glass. Leaves will answer, and with 6 inches of soil upon them will be so firm as to leave you a foot clear in a short time. The soil should be rich loam, light rather than heavy, and when it is a little warmed you may plant the Potatoes in rows 18 inches apart, and the sets a foot apart in the rows, placing them 4 inches deep. Radishes may be sown over the surface, and the seed be either raked in or covered with half an inch of soil. All the treatment required is to expose fully when the weather is mild, and protect from frost by mats and straw coverings in frosty weather, not removing them in continued severe weather until a general thaw. If you can command an abundance of protecting material commence at once, but if not we should defer planting until early in February, in the meantime having the sets in a suitable place to sprout. When they have pushed shoots from one-half to three-quarters of an inch long you may plant. We grow in frames Sandringham Ashleaf, Myatt's Prolific Ashleaf, and Veitch's Ashleaf. The first is earliest, but the last two are better croppers, and for your purpose would be most suitable.

MARANTA UNHEALTHY (A Subscriber).—These plants become unhealthy from various causes—by excessive moisture at the roots on the one hand or drought on the other, by low temperature, a too dry atmosphere, and by bright sun. Do not disturb your plant at present, but place it in the warmest position of your house, keeping the soil just moist. In the spring, when you can command 20° more heat, carefully shake the plant out of the old soil and pot it in a rough open compost of turfy peat and charcoal, and place it in a shaded part of the house, maintaining a moist genial atmosphere to promote the growth of fresh foliage. A minimum temperature of 50° is fully too cold for your plant.

HEATING A GREENHOUSE (L. M.).—The stove is evidently not large enough for heating your house. If you object to a flue or hot water your only course is to obtain another stove. You will not now be able to procure one from the same maker, but you will have no difficulty in finding one that will aid in excluding frost. You ask for instructions to enable you to obtain "sufficient heat," but neither state what amount of heat you require nor what kinds of plants you have in the house.

MANURING FOR POTATOES (Bricks and Mortar).—As the land is required for building purposes and you only want one crop from it we should not, unless it is very poor, apply any manure until the Potatoes are planted. We should then sprinkle a little superphosphate of lime in the drills, just making the ground white, and if further support is needed we should top-dress during showery weather when the Potatoes had grown a few inches high with the same fertiliser and a sprinkling of guano.

PETROLEUM AS AN INSECTICIDE (A Subscriber).—In syringing the plants they should be laid on their sides or be held over a tub containing the solution; very little petroleum will then drain into the soil, and that little will not do any injury. It is not easy to name a Fern from such small scraps and those imperfect, but we think it is *Pteris argyrea*.

PRUNING MARECHAL NIEL ROSE (Agricola).—The shoots nearly 10 feet long should only have the tips removed if you require a large supply of blooms next year. The growth of the weakly plants should be pruned rather closely in order to produce still stronger shoots next year for flowering in 1880. Roses in the open air should not be pruned until spring, and in due time instructions will be given in "Work for the Week" on the subject.

LOASAS (Somerset).—The following is the description of the flowers:—Calyx tubular, with four or five lobes, adhering to or closely girding the ovary. Corolla with four or five concave petals, inserted in the throat of the calyx, or double that number and disposed in two series, the interior being the shortest, and sometimes in the form of scales. Stamens indefinite in number, distinct, or united at the base in several bundles. Ovary inferior, one-celled, with three, four, or five partitions, issuing from its inner surface. Style simple. Stigma either entire or four-lobed. Your other question will be answered next week.

MANURE COMPANY (Seventeen-years Subscriber).—We have no knowledge of the Company you refer to.

NAMES OF PLANTS (G. H.).—The berried plant is *Eugenia Ugni*, and the other *Habrothamnus elegans*.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

THE MANAGEMENT OF SWINE.

THE first thing to be considered relating to this subject is the pens or sties for the accommodation of the animals. These are commonly treated as the least important of all the buildings on the home farm, and great improvement can not only be made

for the well-doing of the pigs, but also for the preservation and retention of the manure. It is requisite that the breeding sows, the boar, and the store pigs, as well as fattening pigs, should have separate apartments, and as each will require a different design for their accommodation we shall allude to them in detail. Having often superintended the erection of sties upon home farms we give the dimensions, &c., which we recommend as best adapted for the comfort of the animals, facility for feeding, and for the saving of manure in the most available condition. It often happens that on some farms there are existing sties which it may be economical to retain and make use of by such alterations as will make them useful under an improved system, and therefore by stating what we consider the best accommodation as a new erection it will serve to point out what changes may be made in sties now in use should they require alterations or additions.

The best aspect for the frontage of the pig pens is to the south or west; in fact it is the best plan to have two ranges with a meal house with boiling coppers and cisterns for grains, wash, and mixed food in the centre, with easy access at the back of the building for the carting and delivery of materials required, such as roots, meal, &c. We propose to consider our subject under two separate headings—first, the best management adapted for breeding sows and their offspring; and secondly, the rearing of store pigs from the time of weaning and the fattening for sale at different ages. The range of buildings to afford the best accommodation for breeding sows should have a south frontage. The span of the buildings should be 20 feet, roofed with slate, the eaves being 7½ feet from the ground level. The arrangement for each farrowing sty should include the whole 20 feet under cover, and 10 feet in width, and it should be divided; the interior or nesting place for the sow to be 7 feet by 10 feet. The floor should be raised 12 inches above the ground level, and be formed of flagstone or concrete with cement. We object to brick, as being always more or less damp. Sometimes boards are used, but they in ordinary use are also damper than stone or concrete. The floor should be laid with a fall of 1 inch to the foot towards the outer division of the sty; a rail should also be attached to each side of the pen about 10 inches from the floor, and projecting about 10 or 12 inches. This is called a sawall, because it provides an escape for the little pigs when the sow lies down, as they can run under the rail behind her back instead of being overlaid. This nesting place or interior division should not be littered with long straw, but only with chaff cut into lengths of 4 or 5 inches, and kept entirely free from dung; then at the time of farrowing there will be no accumulation of straw, which is often the cause of loss of young pigs not being able to keep out of the way of the mother when about to lie down. There being a wicket 2 feet wide to the inner pen or division the sow may when near farrowing be confined to this apartment, only being let out to feed in the front division. This division should be 13 feet by 10 feet, the floor being sunk 1½ foot below the ground level for the purpose of holding the manure, with 6 inches of dry earth or ashes at the bottom for absorbing the urine. The shorter the straw for bedding the better, which should occasionally have a sprinkling of earth or ashes to consolidate the mass, which may then be allowed to accumulate as long as convenient. In this outer apartment the iron trough will be placed, and any green food may be strewn over, this being the feeding apartment. The trough not being a fixture will rise with the accumulation of the manure. The feeding will take place through a wicket 3 feet wide from a pathway outside, raised 12 inches above the ground level and 2½ feet wide, which may be pitched with stone or brick and kept clean at all times, and will give access to each of the sties alike. This raised path also gives protection to the pens, because it answers the purpose of a stopping block when the carts are engaged bringing food, litter, or earth, and removing dung, and prevents damage to the building by carts being backed against it. The front of the pens may be of wood or sheet iron galvanised, and about 4 feet in height above the level of feeding path, which may or may not be covered by a projecting roof as may be required. This feeding path is placed in front,

because we object to the usual feeding path inside, it being unreasonable to expect that the sow can farrow in comfort and quietude when the feeding trough is a fixture in the apartment or lair, and some sows when disturbed at such a time will destroy their little ones in consequence, nor do we approve of any interference whatever with the little pigs or the mother at farrowing time, hence the care we always take to keep the inner apartment completely private.

The feeding of the sow must now be considered. It is best to give cooked food for a few days or a week, first with bran or sharps with skim milk, afterwards with boiled cabbage, carrots, Swedes, or small potatoes mixed with bean or barley meal, and a little milk added when it can be obtained. With this food the supply of milk will be good. The little pigs will require to be fed separately when about fifteen or twenty days old in this way: Feed the sow first, and then shut her into the inner apartment whilst the little pigs receive their food in the front division, which food should consist of skim or butter milk and bean or barley meal; to this may be added as they increase in growth boiled roots of some kind as before named. At about six weeks old they may be castrated and spayed, except those required for breeding purposes, and in reserving sow pigs take care to save only those which have at least twelve teats. As the pigs should be weaned and taken from the sow at about ten or eleven weeks old they should be fed up to that time with a liberal allowance of cooked food. Any kind of roots with meal will answer the purpose except mangolds; and in case they are to be kept on for store stock only, after being weaned they should have beans or peas to eat twice a day; this will enable them after being weaned to live upon the coarser food—such as roots with maize, beans, or peas—to keep them in a growing state.

We must now refer to the young sow pigs intended for breeding. These may be fed with the store pigs as just stated, for we do not approve of high feeding for breeding sows, nor do we approve of their being put to the boar until they are eleven or twelve months old. They will then at farrowing time be able to sustain and rear up a full number of pigs at the first birth. This is really a matter of much more importance than is generally supposed, because when sows are bred from at too early an age they are more likely to bring a short number of pigs at the first birth; and it must be remembered that so many teats as suckle pigs at the first birth, just that number will furnish a full supply of milk at future births. For instance, if a sow rears up seven pigs only at first birth, and she brings ten pigs in the next troop, three out of the ten will be poor weakly animals, because they must be reared by those teats which were not in use by the first farrow of pigs. This circumstance has always induced us to defer breeding until the sows are of full age, besides which they become larger animals, and have greater resources both in body and constitution for sustaining their offspring. After the little pigs are weaned, which should be done by taking the sow from them instead of taking the pigs from the mother, we recommend that the sows should have plenty of liberty and exercise, for we have noticed that sows kept entirely in the pen will bring but few pigs at a litter; but when kept as we recommend—that is, to have the use of a small yard where dung is stored, and be fed there with roots, &c., all their dung will then be added to the manure heap, and if they have a small hovel to lie in they will do well. The fencing may be of iron hurdles.

(To be continued.)

WORK ON THE HOME FARM.

Horse Labour.—Wheat-sowing will be continued on all dry soils where roots are being fed off, particularly in those cases where the quantity already sown is not up to the average usually sown upon the farm. Managers of a home farm need not be deterred from sowing wheat after this time at every opportunity when the weather is open and the land can be worked, so as to drill the seed and insure its being covered in. We recollect on various occasions when we have sown wheat about this time, and when frosty weather has set in immediately and prevented the wheat germinating, that we have never known it take injury on that account, although it may have lain in the ground for six weeks. Wheat is very hardy, and when frost sets in when the seed grain is only just sprouted even then it does not injure but only delays its appearance above ground. Some farmers object to sow wheat in the month of January, and we have always found it to answer best to sow as soon after Christmas as the state of the land would admit, as the land settles down much firmer and the crops grow more like autumn-sown wheat than when sown in February or March. The crop is always more infested with weeds when sown in the latter month, and in consequence it should be drilled at 9 or 12 inches apart in order that the horse hoe may be freely used. We have been over much land in different districts during the past few weeks, and the complaint is very general that women and lads are not to be obtained as formerly to do the weeding upon the corn crops. This of itself is a strong reason why wide drilling for all sorts of corn should be adopted, particularly upon those soils infested with the deep-rooted thistles. Should frost

continue manure and chalk may be drawn on to the clover. This is advised, because on the home farm generally the farm-made manure should be drawn out whilst fresh and new, as it goes so much further than when allowed to remain in heap for a considerable time, for it is certain that it loses some of its value by heaping, besides the extra expense of a second carting. The odd horse will find constant employment in carting hay for the sheep and other kinds of cattle, also roots for the stock in the yards and boxes.

Hand Labour.—Corn may now be threshed and delivered; hay may also be sold, trussed, and delivered, as labour is of less importance at this time of year, and if these matters are delayed until the spring of the year they are sure to displace work of more value. There is sure to be a considerable quantity of straw required as fodder for the young cattle, for the furnishing of which threshing must be continued. It is only in a few districts that the flail is found in use; but still it is in use, and some prefer barley threshed with the flail, the corn being less damaged for malting purposes. It is, however, quite impossible to recommend it in preference to the threshing machine for many reasons which will occur to the mind of every experienced home farmer. Chalk may now be brought to the home farm in all the loamy land districts, and placed in a dry situation, such as a barn mow; and as soon as it is sufficiently dry it should be screened and got ready to drill with the turnip crops of next year instead of ashes, it being found to prevent the clubbed roots in both Swedes and turnips, also cabbages. The young cattle now coming two years old if they have been liberally fed from birth will soon be fit for sale. They will usually make about 20s. per month from the date of birth. At this rate, if they have been fed under cover winter and summer with judgment and economy, by having no more food than they can assimilate, they must be considered to have paid for feeding. In the southern and home counties the lambs from the horned Dorset ewes will soon be fit for sale, and it is reported that the early Dorset downs have commenced lambing with good results. The weather is now such that a lambing fold must be got ready, and if possible near to the cottage of the shepherd; if not those shepherds' houses on wheels, particularly those with a stove fitted inside, should be used, because in hard weather when the lambs fall fast many of them, especially in the case of twins, will often be lost if they cannot be placed near a fire or warmth of some kind, and to assist the young lambs cow's milk also ought to be available for use when the ewes happen to be short of milk.

VALUE OF WOOD ASHES AS MANURE.

THE experiments carried on with leached wood ashes in America continue to be favourably reported on, and to win more friends every year. They have been used for many years by the farmers and market gardeners of Long Island, and later by the same classes in the seacoast towns of Connecticut, and also on the tobacco farms farther inland. Leached ashes contain considerable quantities of potash and phosphoric acid, which have a wonderfully invigorating influence upon exhausted soils. The onion growers make large use of ashes, buying them sometimes by the thousand bushels. Fruit-growers are much pleased with its effect upon the growth of trees and shrubs, and upon their productiveness. Their effect is said to be immediately visible in old pastures and meadows, sown broadcast as a top-dressing; but they act still more satisfactorily if applied to the crops at the time of seeding down. They not only largely increase the crop with which the grass seed is sown, but their influence is visible for many years afterwards in the increased yield of grass. A farmer who has used ashes freely for twenty years upon a hard, worn-out gravel soil says they will give an increase of hay upon a meadow newly stocked for eight years; and then, if the field be ploughed again, they will show the effect of the ashes for six years longer. He applies about one hundred bushels to the acre on land that he designs to keep in permanent meadow, and about seventy-five bushels to pasture land. It is particularly satisfactory as an application to a rye crop, even in so small quantities as twenty bushels to the acre. He has reclaimed a large breadth of old fields given up to the growth of bushes, briars, and brakes, and made it a fine pasture by taking rye crop manured with ashes. He considers leached ashes his most efficient helper in transforming an exhausted worn-out farm into one of great productiveness, giving a fair reward for his capital and labour. In commenting on the value of wood ashes, Professor S. W. Johnson, of New Haven, Connecticut, says, in the *Country Gentleman*, that wood ashes are a good fertiliser is well proved; that they often do well on all kinds of crops and a great variety of soils is a perfectly authenticated fact; that they often show no perceptible influence on this or that crop, on this and that soil, is another fact no less thoroughly established; that in a multitude of cases wood ashes would give good crops, but some other fertiliser would give better ones at less cost, may fairly be inferred from the recorded experience of careful experimenters. In the face of these uncertainties local experience of the nature of the soil crops, &c., is the best guide in their application; and if

there is none to appeal to, a trial on a limited scale should be made to test its powers.—(*Journal of Forestry.*)

THE LATE DISQUALIFICATIONS.

We have long been accustomed to hear laments over the fact that poultry and Pigeons are often exhibited, not as Nature made them, but much improved by art, and that such birds not unfrequently gain prizes. Doubtless there has been some exaggeration as to the extent to which such practices have been carried; but leaving a wide margin for this, it is notorious that judges have winked at many dishonourable trimmings of feathers and cutting combs. The harm that has thereby been done is not easily calculable; we could name many genuine fanciers—i.e., real lovers of beautiful and highly-bred birds, who have in consequence, not indeed ceased to breed such, but have entirely declined ever to exhibit them. We began ourselves with Spanish, and for two or three years bought high-class stock and bred carefully, but never got even a modest commendation, for the reason that we had no conception that anything by way of improvement was ever done to their faces. We sold our stock cheap, and in the hands of experts they carried all before them at the greatest shows. We mention this fact solely as proof how easily young fanciers may in disgust be driven out of a charming pursuit. We tried another breed ourselves, and were fortunate enough to hit upon one which is less capable than any other of any artistic improvements, and were successful at once, but for one disappointed exhibitor who is thus persevering probably there are three who give up in disgust.

We have become almost tired of reading and hearing the not unnatural complaints of the scrupulous who have suffered from the unscrupulous, because so little seemed to result from these complaints. So long as judges continued to give prizes to trimmed birds, trimmed birds were sure to be shown; and as long as judges felt that they were not seriously and systematically supported in showing up all cases of trimming, they were not likely to be over-curious in trying to find them out. Now, however, things seem to have changed, the vague clamour against trimming has developed into definite determination to support the judges in putting it down. They understand this, and have, we are glad to see, begun to act upon it. At the late Crystal Palace Show more than one pen was disqualified, and these disqualifications were very generally hailed with satisfaction. We do not for a moment mean that there was any satisfaction evinced at the particular instances, but at the evidence of determination on the judges' part no longer to wink at malpractices. It is quite possible that some of the first victims of this improved state of things may, in a way, be hardly dealt with. Much tacit encouragement has doubtless been given to trimming, and specious reasons have been found for showing birds "to the best advantage," as we lately heard it termed, but the benefit to fanciers in general will, we are certain, be very great. The same course has, we hear, been pursued elsewhere by the same judges, and very thoroughly by another judge at Norwich. So far so good, but we cannot help wishing that some manifesto might be drawn up and published, either by a board of the most experienced judges, or through the Poultry Club, to which several of the most eminent judges belong, stating plainly what is and what is not to be considered trimming in each breed. A fair warning would thus be given to those who have been led on by custom to do what they do not approve of, and young fanciers who may buy stock from expert breeders will so gather hints as to where to look out for points in which they may be taken in. Of course such obviously improper trimmings as the plucking of hocks and tails would need no enumeration, but it would be well that all doubt should be cleared up as to such points as to the skinning of Game cocks' throats (dubbing we put out of the question as defensible on totally different grounds to all other trimming), the shaving of Spanish faces, the pulling of feathers from the front of Polish crests, and the carving of Hamburg combs. The latter has always seemed to us the most objectionable of all these practices, for by it a bird with a gross hereditary fault may be made to appear almost perfect; and this is the very case in which, in our opinion, judges have been hitherto too lax. The object of those who have most strongly advocated judicial severity is not, we are sure, that this or that person may be detected in malpractices and made an example of (though this may incidentally be desirable as a deterrent), but that the fancying public may be made to understand that a new start must be made on stricter principles, and abuses which have by degrees come in must be put down with a strong hand. This will more easily be accomplished if it is clearly known and understood what are abuses, and for this reason we should much like to see some category of them drawn up by those who would speak with authority.

FWLS PROBABLY POISONED.

My fowls have failed quite suddenly. They mope with tails drooped, and do not care to eat. On looking in the hen houses I could see they were suffering from diarrhoea; I could detect blood in their evacuations. I found one dead on Saturday, and several since. On inspecting the dead birds I found their throats in-

flamed. I am treating them for inflammation of the mucous membrane. I gave them all to-day three parts of a teaspoonful of castor oil; to-morrow I shall give them a mixture of three grains of hydrargyrum cum creta, three grains of rhubarb, and three drops of laudanum in a teaspoonful of gruel. They have a good dry run, good holly hedge to scratch under, and a dry shed with plenty of grit, a large orchard to run in, and a field adjoining. In a dry corner of the orchard I have all the garden refuse put. They have plenty of grass, clean water, and everything requisite for them to do well; in fact they have done well till last week, hatched out ninety birds of eleven sittings, only had two die, one crop-bound and one found dead. As soon as I found them failing I mixed some barleymeal and toppings, added some cayenne pepper and rue chopped small. I have not given them any hard food since. My general way of feeding is maize and barley in the morning, a few oats and peas in the afternoon, barleymeal and toppings with a little cayenne pepper or kitchen stuff. I am always changing food some way or other, and have the best I can buy. I always give soft food once a day at moulting time.—JOHN STRONG.

[We have little doubt from the description you give your fowls have had access to or have discovered something of a poisonous nature—an irritant poison. We advise you to keep on the castor-oil treatment, giving a tablespoonful for a dose. It may be given daily till the symptoms become favourable, when the treatment may be altered by a diminution of the doses, and a greater interval between them. Discontinue all other medicine unless you give Baily's pills which are very useful in these cases. The best change you can make in their food is to give ground oats (barleymeal if you cannot get oats), and it will be a very good thing if they are mixed with milk. Let this be the morning meal; at midday some maize or household scraps, and ground oats mixed as before in the evening. Give no pepper; you may give rue if you like, but it is not necessary. We do not approve of toppings. We have long cried out against the notion that the food which cost least was the cheapest. Money will only buy money's worth, and during a long life we have never been able to accomplish successfully for £1 that which cost other people £2. The least money has the least result. We like neither cayenne pepper nor peas as poultry food. We have always advised that in feeding poultry the habits of a bird in a state of nature should be the system to be followed. They seek no trifling changes in their food. They feed regularly and moderately; above all, early in the morning. It is not improbable the ailment may proceed from the weather. Fowls, like human beings, are affected by sudden changes. Simple remedies are the best. When fowls are suffering as yours doubtless are, the best remedy to rally them when weakened by the medicine is to feed morning and evening, especially the latter, on bread steeped in strong ale. We believe it to be always good in severe weather.]

GUILDFORD POULTRY SHOW.

THIS Show, in connection with the Show of the Agricultural Society, was held on the 9th and 10th inst. in the Green Market, Guildford—a miserable building for the purpose, open towards the street, and piteously cold and draughty. It was reported at the Show that for a very small sum the Skating Rink could have been secured for the Exhibition, which would have been a far better place. We trust that another year the Committee will be more provident, and not risk the exposure of the birds to such fearful cold.

The *Dorkings*, as usual, were good. The cup went to a grand pair of adult Silver-Greys. In the chicken class we much admired Mr. Taylor's Dark pen, third prize. The pullet was, we think, one of the Crystal Palace prize birds, and the cockerel large and round-breasted. We should have transposed them with the first pair, also Darks, the cockerel of which had very poor toes. The second chickens were good Silver-Greys. The winning pens of Whites were capital cup birds at some of the greatest shows. *Cuckoos* were also good both in size, colour, and combs; far better than any we saw at Birmingham. In *Cochins* a grand pair of Whites took first and cup for the best pen of large fowls other than *Dorkings*. They were birds which might grace any show. Second were also good Whites; third fair Buffs. Dark *Brahmas* were a poor lot. The second and third prizes were withheld. We thought the exhibitors hardly dealt with in this case, for the first-prize pen contained a regularly deformed and crippled cock. Light *Brahmas* were one of the best classes, the first winners being a handsome pen. *Spanish* and *Game* were decidedly poor. In *French* a pair of Crêves were first and *Houdans* second, quite as good of their kind. In *Hamburgs* two good pens of Golden-pencilled won, and some fair Blacks were also shown. In the Variety class pretty Japanese *Silkie*s were first, and White *Minorcas* second. *Game Bantams*, as usual at this Show, were excellent. First were Brown Reds, a trifle large but very stylish; second Black Reds, the cockerel splendid in colour with a poor hen. In any other variety Japanese were first and Black Rose-combed second. *Aylesbury* and *Rouen Ducks* were shown together, and were more numerous than remarkable. Black East Indians and Carolinas won in the Variety

class. *Geese* were poor and *Turkeys* excellent. We always see at this Show much variety of colour in *Turkeys*, fine Blacks, Whites, and Buffs being in the prize list.

There was one class for *Pigeons* of all sorts with seven prizes. We think this a mistake, especially now that the Surrey Columbarian Society hold their Show at this time. Twenty-one pairs appeared. The first (Yellow Turbets) and second (White Fans) were well-known winners; third were White Fans; fourth Homing Antwerps; fifth Archangels. We subjoin the prize list.

POULTRY.—DORKINGS.—Coloured and Silver.—Cup, 1, and 3, O. E. Cresswell. 2, J. Ivory & Son. *Chickens*.—1, J. Ivory & Son. 2, O. E. Cresswell. 3, J. Taylor. *White*.—1 and 2, O. E. Cresswell. *Blue*.—1, W. Virgo. 2, J. L. Playfoot. *COCHINS*.—Cup, 1, 2, and 3, J. Buckmaster. 3, A. C. Ede. **BRAHMAS.**—Dark.—1, H. Glover. 2 and 3, Withheld. *Light*.—1, W. Mitchell. 2 and 3, Rev. G. S. Davies. *vhc.* Countess of Lovelace. **SPANISH**.—1, Withheld. 2, A. Critchett. **GAME**.—1, J. Knight. 2, Withheld. 3, J. W. Taylor. **HOUDANS OR CREVE-CEURS**.—1, Rev. G. Chilton. 2, Rev. W. Pearce. **HAMBURGHS**.—1 and 2, O. E. Cresswell. **ANY OTHER VARIETY**.—1, O. E. Cresswell. 2, S. D. Timas. **BANTAMS.**—Game.—1, R. Osborn. 2, B. Randall. *vhc.* *Any other variety*.—1 and 2, O. E. Cresswell. **DUCKS.**—*Aylesbury or Rouen*.—1, J. W. Taylor. 2, J. H. Webber. 3, J. Ivory & Son. *Any other variety*.—1 A. & J. Wells. 2, J. W. Taylor. **GEES**.—1 and 3, J. W. Taylor. 2, T. Baker. *Gooslings*.—1 and 2, J. W. Taylor. 3, Withheld. **TURKEYS**.—1, Countess of Lovelace. 2, W. Alden. 3, E. Pilcher. **POULTS**.—1 and 2, F. Botting. 3, J. W. Taylor. *vhc.* Countess of Lovelace. **SELLING CLASS**.—1, A. & J. Wells. 2, A. C. Ede.

PIGEONS.—1, 2, and 5, O. E. Cresswell. 3 and 7, Burdett & Walker. 4 and 6, Rev. W. Pearce.

JUDGE.—Mr. W. J. Nichols, The Poplars, Merton Abbey, Surrey

CANTERBURY POULTRY SHOW.

THE annual Show of Poultry, Pigeons, and Rabbits was held in the Kent County Pavilion on Thursday last and following days. Small birds were this year omitted from the schedule, and provision was thus made for the large increase in the poultry and Pigeon entries.

Dorkings.—Coloured cock and hen—a capital class, nearly all the birds noticed. Cockerels also good, the competition between first and second being very close. Silver-Greys better in numbers, but not equal in quality to the Darks. *Cochins*.—Buffs, the winners in the cock and hen were a pair of stout birds, well feathered. A pen of Whites were first in the Any Variety class. *Brahmas*.—The Dark classes were unusually small, but of more than average quality, the cup going to a grand pen of old birds, closely pressed by a beautifully marked, large, well-feathered Dark pullet belonging to the same owner. Lights were larger classes, and contained a few good pens. *Spanish*, with the exception of the winners, poor. *Houdans*.—First a fine cock a little deficient in crest, matched with a grand hen large and even in crest. *Game* and *Hamburgs* were on the whole good. *Sultans* obtained only a poor entry. *Polands* were finely supported, and appear to be fast recovering their popularity. *Bantams*.—Game, first in Black Reds cock, very stylish, the Palace winner we think; second contained the best hen. In the class for Black and White Miss Ladd won with a pretty pen. *Ducks*.—Rouen, twenty-five entries, a splendid class, the Ducks in the winning pen being richly marked.

The *Pigeons* were much better supported than on any previous occasion, and a very marked improvement was visible in the quality. Carriers were a very superior lot; and here we noticed two or three of the best birds, that certainly should have found their way into the prize list, unnoticed by the Judge. The general impression was that he had passed them by accident; and of course exhibitors were not very complimentary with their remarks upon his awards, but we were afterwards informed that they had not escaped his attention, but that he found some so greased and others cut in the wattle that he could not give them a prize; and if the rule which prohibits tampering with birds means anything, for the reputation of the Judge a disqualified card should have been placed on the pens, and then the initiated would have learnt the cause of the omission in lieu of contending that it was through his want of appreciation. **Pouters.**—Cocks a surprising class of twenty-three entries, hens eleven. **Barbs and Tumblers** all good classes. **Dragoons, Blue and Silver**, poor. **Any other colour.**—Cock, a Chequer first, the Palace winner; second a moderate White; third a Grizzle of no great pretensions. A rich-coloured Red was also shown here, but an attempt to "Madame Rachel" it with the grease pot caused it to share the fate of the Carriers we have above described. Some Yellows in this class and in the hen class also, that have obtained the highest honours at the principal shows, were not here even decorated with a card. **Jacobins and Owls** were large classes. **Fantails** a charming lot, and obtained a special general commendation from the Judge. The Antwerps obtained a great entry, and some bargains were to be found in the large Pigeon Selling classes.

Messrs. Teebay and Nichols judged the poultry, Mr. Esquilant the Pigeons. A list of awards has not been received.

CANNED BUTTER.

SUCH has been the progress in the manufacture of American butter that that article is now marketed in all sorts of shapes, both for home use and foreign export. Fine creamery butter is made to retain its sweetness and purity, kept however long, in any

part of the world, especially in the warmer climates. Ships making long voyages, or parties going on a cruise and people living in isolated sections, with no opportunities for making or purchasing freshly-made butter, now no longer need eat poor butter, when a nice article can be obtained that will retain its flavour for an indefinite length of time. Canned butter now figures in the exports of the United States quite prominently. The butter is packed fresh from the churn, at the packing rooms of the creamery. In the method of regulating the temperature lies the great secret of the success which our American creameries have obtained. Butter sealed in cans is free from foreign substances, such as salt and pickle. It has no salt put in. When it is taken out of the cans to be used it is salted. A can of butter that had been sealed for nearly a year was found by an analyst to be as fresh as when made, and not affected in the least by the tin. Salt corrodes the tin and spoils the butter, and hence in canning it is not used, but only when the butter is eaten. It has also been ascertained by experiment that dairy butter is more liable to melt in a warm temperature than creamery butter, for the reason that the latter consists of only a single churning and is packed closer, while the former generally consists of several churnings, which are apt to vary in quality in hot weather.

The introduction of canned butter is destined to become a large industry, and the success of the movement is assured. The principal rival to American enterprise in this industry is Denmark, which country has for some years exported canned butter to various hot climates, but chiefly to South America. The great care taken by the Danish dairymen to preserve the grain of their butter has given them an advantage in the past, so far as the foreign export trade is concerned; but it is now claimed that the American-made article is superior to the Danish article in some respects, and that it can be and is sold at a less price than the Danish butter, which is its only competitor.

Very little canned butter is seen in our markets, and that little is put up by butter-makers for hotels and private parties who order it in that shape.—(*Western Stock Journal, Iowa, U.S.*)

BRITISH BIRDS IN DECEMBER.

DURING the past fortnight great changes have been going on among the wild birds of this country. Towards the middle and end of November the birdcatchers always expect what they designate the "November flight of Linnets." This great flight began this year about the 15th of November. On the 24th and 25th very large takes of Linnets were made by the London and suburban catchers. The men get their nets laid before daybreak. As soon as it is light the birds appear. They come in flocks of from two to three hundred; the call-birds "charge," and give the catchers notice that the birds are coming before they can be seen by the men. Very large takes of these migratory Linnets have been made; as many as five dozen have been taken at one pull of the clap net this year. Although so many Linnets are captured annually, there has been no general diminution noticed in their numbers. The principal part of these birds are bred on the wild gorse lands, especially in Scotland. They are very prolific, and have three or four nests each season, producing from fifteen to twenty young. When this Linnet migration from the north takes place, the birdcatchers are certain that some wild weather is coming behind them. This has been justified by the recent weather of cold and wintery rain. The Linnets when arriving at the south of England disperse themselves over the stubbles, "clover lays," and "fed-offs;" they eat large quantities of charlock and other wild seeds, which otherwise would be injurious to the farmer. The large takes of these birds have glutted the bird market. Before the flight cock Linnets were worth from 4s. to 5s. a dozen, now they are only fetching 1s. 6d. to 2s. A very rare bird has been taken among the Linnets at Highgate—namely, a hybrid between a common Greenfinch and Brown Linnet.

Goldfinches are now becoming very scarce, on account of the cultivation of land exterminating the thistles. This year, for the first time, the birdcatchers have gone expressly to Ireland, and have sent large takes of Goldfinches thence into the London market. During the autumn Goldfinches were abundant; the reason of this may be attributed to the provisions of the Bird Preservation Act. At this time of year the Goldfinches lie up in quiet feeding places, and remain there as long as the food lasts; they will not be seen on flight again until April. The Siskins, Chaffinches, Bramble Finches, and Hawfinches that came in the last Michaelmas flight, and located themselves where food was abundant, are now gone, and the birdcatchers cannot find their whereabouts. In all probability they will not show up again on flight until the middle or end of February.

Fieldfares, Redwings, and Missel Thrushes have arrived in large numbers, and are to be found about the environs of London so long as they can find food; they are very wary birds, but the moment frost and snow set in they are very easily approached. The Redwing of all the Thrushes is the most duck-hearted; he will soon succumb to the cold, even when the berry food is abundant; he cannot exist long without "ground food"—that is, worms and insects. Bullfinches are still plentiful, there being

abundance of food for them, such as old blackberries, privet berries, and dock seed; but they never begin on the privet berries as a rule until after the frost has touched them. The Aberdeens, or Siskins, have entirely disappeared, the cause being that there is no alder seed this year; the birds subsist almost entirely on alder seed during their stay here in the winter, and never breed in this country nearer than the north of Scotland.

The Scotch Larks are unusually abundant in England this season; they locate themselves on the clover and grass lands, where they are taken by thousands on dull nights with the trammel nets. At this time of year they are sold dead indiscriminately, both cocks and hens, just as they are caught. By the end of January the catchers can find ready purchasers of the live cock birds. The price of cock Larks then rises monthly up to the end of April. In January they fetch 4s. a dozen, in April there is a ready market at 12s. a dozen.

Woodpigeons are very numerous this winter, and large numbers are now in the London market. Just now they are in the very finest condition, and are regular "lumps of meat." They are very good for table when stuffed with sage and onions and roasted as are Ducks. When the severe weather sets in the damage that will be done to the farmers by Woodpigeons will be alarming; they will destroy large quantities of Swedes and turnips, spoiling more than they eat. These birds peck out the heart of the green part in the centre of the turnip; in doing this they make a deep hole, the water then gets in, and the turnips are destroyed by the first frost. This year there are no beech-nuts; the Woodpigeons, therefore, will more than ever make inroads among the turnips. Woodpigeons also do much damage to the vetches grown for early lamb feeding.—(*Daily News*.)

VARIETIES.

WE hear that in spite of some financial failure at the late Wolverhampton Shows, the public-spirited Committee have decided to hold another Show on January 24th, 25th, and 27th, under the rules of the Poultry Club.

THE report of the Council of the Royal Agricultural Society of England states that during the year 1878 the number of governors and members had been increased by the election of four governors and 451 members, and diminished by the death of five governors and 110 members, and the removal of 183 members by order of the Council and by resignation. The Society now consists of 79 life governors, 73 annual governors, 2377 life members, 4242 annual members, and 26 honorary members, making a total of 6797, and showing an increase of 157 members during the current year. The funded property of the Society remained the same as at the last general meeting—namely, £26,511 11s. 5d. New Three per Cents. The balance of the current account in the hands of the bankers on the 1st inst. was £942 19s. 10d., and the sum of £1000 remains on deposit.

THERE are but few persons, observes an American journal, who can help admiring a small flock of Bantams, for their proud sprightly ways are sure to gain them admirers, and this feeling is shared by age and youth alike. As a present to a boy or girl no better one can be given than a pair of Bantams if they have the room to rear them, which need not be large, for a small yard will be ample space for them to exercise in, while the amount of food they consume is so small that it is not noticed, the scraps from the table keeping them abundantly supplied. A house can soon be made from a large box, which can be ornamented as best suits the taste and convenience of the owner. One desirable feature in regard to Bantams is that they are eminently useful pets, for they are invariably good layers, no matter what the breed, and their small plump bodies are more delicious eating.

WORKER BEES SETTING EGGS—FERTILE WORKERS.

AT page 420 of this Journal your correspondent "A RENFREWSHIRE BEE-KEEPER" says, "Under like favourable circumstances, after many years' observation, we have never had the good fortune to see workers setting eggs or yet met with any bee-keeper who had. Being so profoundly ignorant of the matter I would be delighted to receive information how it is gone about." Some years ago, whilst conducting experiments with a hive which was swarmed artificially, I found that the bees removed a great number of eggs from a sheet of worker comb and placed them in another large sheet of drone comb from which they reared drones. How it is gone about I cannot say. The removal of the eggs took place after the removal of the queen from the hive.

About three years ago fertile workers were very abundant in Aberdeenshire; so much so that I offered a prize of 21s. for the best specimen of a fertile worker, to be exhibited in an observatory hive. No sooner was the schedule issued than I received many letters informing me that there would be a keen competition for my prize. One bee-master wrote to say that he had the bee wanted, and would of course exhibit her; "but," said the writer,

"if she perish before the day of the exhibition I will obtain one from the south, as they are very abundant about Lanarkshire." The day of the exhibition came, but to my great disappointment there was not a single exhibit. I asked several of my correspondents why they did not bring their fertile workers; the invariable answer was, "she died." Since then I have not heard of any fertile workers in this county.—A. COCKBURN, *Aberdeenshire*.

SWARMING AND NON-SWARMING.

MR. A. PETTIGREW is very far wrong on page 160. The clergyman had 445 lbs. super honey from eight Stewarton stocks, which, had he sold at his own door, as I did mine, at 1s. 6d. lb. comes to £33 7s. 6d.—equal to a dividend of £13s. 5d. from each stock without run honey or touching his capital. The thatcher had 64 lbs. super honey from five straw skeps, which at 1s. 6d. lb. comes to £4 16s., or a dividend of 19s. 2d. each stock; but Mr. Pettigrew, like some bank directors, to give the appearance of a big dividend melts up the entire capital of the five stocks into 350 lbs. run honey at 1s., or £17 10s.; this added to the dividend of £4 16s. makes £22 6s., or £4 9s. 2d. each in value, principal and interest. My Stewarton stock gave me £5 2s. of interest for capital invested, and, like the clergyman's, remains to work for me another year.—J. R.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	1878. Dec.	9 A.M.					IN THE DAY.				
		Baromet. at 32° and Sea Level.	Hygromet- er.		Direction of Wind.	Temp. of Air at 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
			Dry.	Wet.			Max.	Min.	In sun.	On grass.	
We. 11		29.572	deg.	deg.	N.	deg.	deg.	deg.	deg.	deg.	In.
Th. 12		29.829	29.0	25.0	W.	35.3	33.6	25.0	37.0	26.0	0.015
Fri. 13		29.669	27.2	27.0	N.E.	35.0	29.8	27.0	32.0	24.2	—
Sat. 14		29.609	25.9	25.6	N.E.	34.5	30.8	21.2	35.7	18.1	—
Sun. 15		29.605	25.2	25.0	W.	34.0	34.9	21.7	41.2	19.3	0.025
Mo. 16		29.510	24.0	22.0	N.N.W.	34.0	34.7	20.2	36.0	25.3	0.010
Tu. 17		29.436	23.0	23.0	W.	34.0	32.8	23.2	35.2	22.1	—
Means		29.664	27.3	27.2		34.6	32.3	24.5	35.3	22.3	0.051

REMARKS.

11th.—Cold with snow until 5 P.M.; moonlight night. Lunar halo 9 P.M.
12th.—Very cold and thick all day; dark very early in afternoon.
13th.—Bright and clear in early morning; sharp frost; little sunshine in morning, overcast and rather foggy after 3 P.M.; starlight night.
14th.—Clear, bright, and very cold day; starlight night.
15th.—Sunny morning, a little soft hail fell at 1 P.M.; thick snow for a short time afterwards; overcast evening.
16th.—Misty morning; dull and very dark all day, with sleet and snow. Partial thaw.
17th.—Fine and brighter day, but very cold; starlight evening.
An extremely cold week, more than 16° below the average. The cold, however, has been persistent rather than intense, as we have at present had no minima at all nearly as low as in 1860 and 1867. The total fall of snow is as yet quite insignificant.
18th (9 A.M.)—Rapid thaw, temperature 37°.—G. J. SYMONS.

COVENT GARDEN MARKET.—DECEMBER 18.

THERE is little alteration in our Market except among vegetables, the recent frosts checking the supplies considerably.

FRUIT.

		s. d.	s. d.			s. d.	s. d.
Apples.....	½ sieve	2	0 to 5	Melons.....	each	0	0 to 0
Apricots.....	dozen	0	0	Nectarines....	dozen	0	0 to 0
Cherries.....	½ lb	0	0	Oranges.....	½ 100	4	0 10 0
Chestnuts.....	bushel	12	0 16	Peaches.....	dozen	0	0 to 0
Currants.....	½ sieve	0	0	Pears, kitchen.	dozen	0	0 8 0
Black.....	½ sieve	0	0	dessert.....	dozen	3	0 8 0
Figs.....	dozen	0	0	Pine Apples....	½ lb	2	0 4 0
Filberts.....	½ lb	0	9 1	Piums.....	½ sieve	0	0 to 0
Gobs.....	½ lb	0	9 1	Raspberries....	½ lb	0	0 to 0
Gooseberries..	quart	0	0	Strawberries..	½ lb	0	0 to 0
Grapes, bothouse	½ lb	1	6 0	Walnuts.....	bushel	0	0 to 0
Lemons.....	½ 100	4	0 8 0	ditto.....	½ 100	0	0 to 0

VEGETABLES.

		s. d.	s. d.			s. d.	s. d.	
Artichokes.....	dozen	2	0 to 4	0	Mushrooms.....	pottle	1 6 to 2 4	
Asparagus.....	bundle	0	0	0	Mustard & Cress	punnet	0 2 0 0	
Beans, Kidney..	½ 100	1	0	1	0	Onions.....	bushel	2 6 3 0
Beet, Red.....	dozen	1	6	3	0	Pickling.....	quart	0 4 0 0
Broccoli.....	bundle	0	9	1	6	Parsley..... doz.	bunches	2 0 0 0
Brussels Sprouts	½ sieve	2	0	4	0	Parsnips.....	dozen	0 0 0 0
Cabbage.....	dozen	1	0	2	0	Peas.....	quart	0 0 0 0
Carrots.....	bunch	0	4	0	8	Potatoes.....	bushel	3 6 4 6
Capiscums.....	½ 100	1	6	2	0	Kidney.....	bushel	4 0 5 0
Cauliflowers....	dozen	3	0	6	0	Radishes..... doz.	bunches	0 0 0 0
Celery.....	bundle	1	6	2	0	Rhubarb.....	bundle	0 0 0 6
Coleworts.....	doz. bunches	2	0	4	0	Salsify.....	bundle	0 9 1 0
Cucumbers.....	each	0	4	1	0	Scorzonera.....	bunch	1 0 0 0
Endive.....	dozen	1	0	2	0	Seakale.....	basket	2 6 3 6
Fennel.....	bunch	0	3	0	0	Shallots.....	½ lb	0 3 0 0
Garlic.....	½ lb	0	6	0	0	Spinach.....	bushel	2 6 4 0
Herbs.....	bunch	0	2	0	0	Turnips.....	bunch	0 2 0 6
Leeks.....	bunch	0	2	0	4	Veg. Marrows..	each	0 0 0 0

WEEKLY CALENDAR.

Day of Month	Day of Week	DEC. 26, 1878—JAN. 1, 1879.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year.
			Day.	Night.	Mean	h.	m.	h.	m.	h.	m.	h.	m.	Days.	m.	s.		
26	TH	Bank Holiday.	43.2	31.4	37.3	8	8	3	53	9	58	7	0	3	0	50	360	
27	F		43.0	29.7	36.4	8	8	3	54	10	16	8	17	4	1	20	361	
28	S		42.6	29.5	36.0	8	8	3	55	10	31	9	30	5	1	49	362	
29	SUN	1 SUNDAY AFTER CHRISTMAS.	43.9	33.0	38.5	8	9	3	56	10	44	10	41	6	2	19	363	
30	M	Royal Society established, 1660.	44.4	31.7	38.1	8	9	3	57	10	56	11	50	7	2	48	364	
31	TU	Joseph Sabine died, 1837.	43.9	32.4	38.2	8	9	3	58	11	8	morn.		8	3	17	365	
1	W		43.0	30.3	35.4	8	9	3	59	11	21	0	59	9	3	45	1	

From observations taken near London during forty-three years, the average day temperature of the week is 43.4°; and its night temperature 34.0°.

From observations taken near London during forty-three years, the average day temperature of the week is 43.4°; and its night temperature 34.0°.

NOTES ON HOLLIES.



THE high estimation in which the Holly is held by all classes of society for decorative purposes at this festive season, together with the charming effect well-grown specimens at all times display, render it one of the most valuable of evergreen trees or shrubs, while its usefulness when planted thickly together for forming hedges surpasses anything else our gardens possess.

The common green form, *Ilex Aquifolium*, is a native of our own country, and is commonly to be met with growing in the deepest shade as well as in more open and sunny positions. The dark green glossy foliage and natural pyramidal habit of the shrubs are in the summer time very attractive, but when loaded with clusters of deep coral-red berries at a season when the garden is destitute of brightness the shrubs show to great advantage. Even were common green Holly the only variety that we possessed we should doubtless be proud of it; but by the aid of art we have now a host of beautiful and graceful forms that adorn our ornamental grounds as specimens, standards, bushes, pyramids, and weepers. We have them with golden and silver variegation in great variety and in numerous shades. We have trees with foliage bristling with spines, while in others the foliage is perfectly smooth: each and all are beautiful objects for lawn and garden adornment.

My intention in this paper is only to direct attention to those Hollies that are most prominently cultivated, and which are generally met with in smaller collections, carefully noting the purposes for which some varieties are better adapted than others.

HEDGES.—Where soil and situation are suitable the common Holly grows rapidly, bears clipping with impunity, and makes the most impenetrable, and at the same time ornamental, hedge of any shrub in cultivation. The best method of planting a hedge is to trench deeply a space about 3 feet wide, to add manure liberally, and to plant young established bushes not less than 18 inches or 2 feet in height, and about the same distance apart from plant to plant. The first season they will do no more than take fair hold of the soil, and will require no more attention than keeping weeds down and giving now and then a good soaking of water if the summer is very dry. The second year they will have made considerable progress; a few for the side growths may then be removed, but the leading growths must not be cut. Repeat yearly the same operation until the hedge has attained 7 or 8 feet in height, when it may be regularly topped and cut into the desired shape. About every 20 feet a strong leader may be left, which will in a few years bear berries abundantly; or the practice may be adopted of budding a strong-growing variegated variety in the common leader left, so that in course of time you become possessed of a dark green hedge with gold, silver, and other variegated heads placed at regular intervals. Hedges worked in this manner when well furnished have a remarkable effect. A good time for clipping Holly hedges

is as soon as the growths are nearly ripened, which in the south is generally about the middle or end of July. The hedges are then neat until the following summer. Some hedges planted here ten years ago are now quite 8 feet high and as perfect as could be wished for, and these during the first five or six years after planting had nothing done to them beyond keeping them free from weeds, clipping the growths slightly at the sides, and removing the tip of any leader that had grown far ahead of the rest.

PYRAMIDS.—It is the natural habit of most varieties of Holly to form a pyramidal form, in which character they are very pleasing as single specimens; but a little assistance is sometimes requisite in training the leader upright and cutting-in the other portions to secure the desired shape. With a very little manipulation of this kind splendid trees may be had from 20 to 25 feet in height of all the robust-growing kinds. Perhaps the variety known as *Hodginsii* is one of the best and most rapid growers for this purpose. It has also bold and handsome foliage of deep glossy green 3 to 4 inches in length, deeply but tolerably regularly spined. The Golden, Bronze, and Silver Queens, Gold and Silver Milkmaids, *Angustifolium flavum* (yellow-berried), *Doddintonense*, *Handsworthianum*, *laurifolium*, *Maedriense*, and *ovata* are all suited for making good specimens.

BUSH SPECIMENS will include all varieties that are of a dwarf dense habit. The most notable of all Hollies for this purpose is *Waterer's*; plants of this splendid hardy and compact rich golden Holly generally grow into dwarf dense bushes without any assistance whatever; shrubs not more than 4 to 6 feet in height will often measure 13 and 14 feet in circumference. The leaves are medium-sized, oblong, smooth, and almost spineless, with a marginal band of deep golden yellow—altogether a very distinct variety, and ought to be in the most limited collections. *Ferox* (the Hedgehog Holly), and its varieties *F. foliis argenteis* and *aureis* are also very suitable for bush specimens.

WEEPERS.—These are worked on clear stems of various heights. Some few varieties possess a naturally weeping habit, the branches in a few years bending down to the ground and make most elegant specimens. A weeping variety of the common green form is very robust in growth and handsome when worked after this manner. *Perry's Weeping* is beautifully variegated, and is altogether a most attractive variety, as is also the new *Golden Weeping*.

STANDARDS.—Compact, round, well-balanced heads on clean straight stems from 3 to 6 feet in height can be easily obtained of nearly every variety in cultivation; but the Golden and Silver Queen varieties, as well as some of the choice green-foliaged varieties, are most generally grown in this form. The heads are regularly and methodically trimmed-in, and specimens are produced well adapted for a winter garden of evergreens.

Some of the variegated forms of the Holly have doubtless been in cultivation for a considerable time, as we now and then meet with large and lofty specimens of the Golden and Silver Queens as park trees, than which nothing can be more beautiful. We recently met with a fine old specimen of *Golden Queen* growing in the grounds of *Belvidere*

House, Wimbledon. Another very old specimen is to be seen at Coombe Wood House, on which estate all Hollies grow luxuriantly, a fact, we are told, which induced the late Mr. James Veitch to select the present site for the splendid nursery of hardy trees, shrubs, and Coniferae at Coombe Wood. A fine specimen of the common Holly growing there was left to adorn one of the finest avenues of Wellingtonias and Araucarias in the kingdom. This fine old specimen Holly is beautifully furnished from the top to the bottom, and is worth journeying a long distance to see. In the extensive specimen border of the nursery may be seen growing every variety of Holly in commerce, and as many of them are now laden with berries the shrubs form a fine feature in the picturesque grounds.

Variiegated Hollies occasionally produce green sports. These should be promptly removed, or they will soon gain supremacy, and in time ruin a beautiful shrub.

Hollies may be transplanted as well as most hardy shrubs, yet when the specimens are large and have not been disturbed for some years they should be prepared for removal by having the soil opened all round their balls during the previous summer, carefully severing any roots that protrude beyond the trench, then fill in the soil again, and by the following autumn they will be found to have made large masses of white young feeding roots. In this manner Hollies if carefully lifted can be successfully planted of very large size. May and the early autumn months are recommended as the best times for transplanting Hollies, but on light dry ground they may be removed any time during the winter when the weather is favourable.

Hollies doubtless thrive in almost all soils, but they make more rapid growth in warm dry subsoils, and to such who have moderate dry soil we advise them not to neglect to add any really hardy and distinct Holly to their collection. By the time that this appears in print the Holly will have been employed largely for the decoration of our homes and churches, and will contribute much to a bright and cheerful Christmastide.—J. W. MOORMAN.

TEA ROSES.

I HAVE read the letter of the "HEREFORDSHIRE INCUMBENT" on page 256 on Tea and Noisette Roses with very great interest, and as nothing that concerns these lovely flowers can be said without receiving much attention from myself I hope my friend will not feel hurt if I venture to offer a few remarks upon his article.

The list he gives is a most excellent one, but I am astonished to find that he omits one variety which he has, in my eyes at least, made peculiarly his own. I do not think I ever in my life but once (and that was a superb bloom of Souvenir d'Elise) saw so splendid a specimen of a Tea Rose as the Comtesse de Nadaillac he showed at Hereford. I ventured to remark upon it at the time, and to add my doubt as to its robust qualities. My friend in a recent article assures me I am mistaken on this point, and that this Rose is as vigorous a grower, at least in his soil, as any other Rose, yet, strange to say, he does not include it in his list of twenty-five Teas and Noisettes. This I am convinced is an oversight, but it will be well that the public should know that this is the case.

I then come to a most strange matter. If I am wrong, then I have not only been wrong for ten years, but I have never had the slightest hint given me that I was in error. But surely Souvenir d'Elise and Souvenir d'Elise Vardon are the same, just as Madame Montague and Madame Montague Remauri are the same pianists, Madame Trebelli and Madame Trebelli Bettini are the same vocalists, yet the "HEREFORDSHIRE INCUMBENT" boldly puts them down as two different Roses, each so good as to be worthy of a place in his twenty-five.

I entirely agree with him as to Madame Bravy being distinct from Alba Rosea or Joséphine Malton, for the first-named is much fuller at the centre, and the petals are folded more closely, more like Comtesse de Chabillant in form than the other; but I think that Mesdames Bravy and Sertot are at least Siamese twins. Julie Mansais with me is a most lovely Rose; it opens easily, and though somewhat small as a rule is often large enough for an exhibition stand. I do not know what I should have done without it this year. It is, however, a very poor grower. Another Rose I think highly of is Jean Pernet. I have cut blooms of this almost equal to Cloth of Gold, and I shall always grow it, if for nothing else, on account of its lovely buds.

Some of the Tea Roses mentioned by the "HEREFORDSHIRE INCUMBENT" are unknown to me, and I shall try to procure this autumn Comtesse Riza du Parc and Madame Camille, for the addition of one good Tea Rose is a great event in my life, and I will accept my friend's recommendation on this point as being very valuable; at the same time I will venture to give my selection.

Alba Rosea
Belle Lyonnaise
Catherine Mermet
Comtesse de Nadaillac
Devoniensis
David Pradel
Duc de Magenta
Elise Sauvage
Jean Ducher
Julie Mansais
La Boule d'Or
Louise de Savoie
Madame Jules Margottin
Madame Margottin

Madame Bravy or Sertot
Madame Berard
Madame Hippolyte Jamain
Maréchal Niel
Marie Van Houtte
Moiré
Perle des Jardins
Reine de Portugal
Rubens
Souvenir d'un Ami
Souvenir d'Elise
Souvenir de Paul Neyron
Celine Forestier
Triomphe de Rennes

—WYLD SAVAGE.

CHRISTMAS DESSERT.

FOREMOST place must be given at this festive season to the king of fruits—the

Pine Apple, garnished as it is with leaves of its own at the base of the fruit, and crowned by a towering rosette of its distinct foliage. Smooth-leaved Cayenne, from its imposing appearance, is most desirable. Black Jamaica is less noble in appearance, but notwithstanding is not surpassed for quality at this season of the year. Queen is also good, and so is Enville.

Grapes come next in their rich golden and purple tints with blooms that proclaim them the queen of fruits. As imposing dishes are desirable at this season, therefore come out now with the Gros Guillaume, which for size of bunch has no equal amongst black Grapes; but Gros Colman outstrips it for size of berry, and altogether a more taking contour. Forget not quality, but put forward Madresfield Court, splendid alike in size, symmetry, and flavour. Lady Downe's is the better for being kept until the new year, along with Mrs. Pince, that is apt to colour badly at the shank and shrivel at the "nose" unless thoroughly ripened. Alicante in its jet and West's St. Peter's in its purple lustre make their presence felt in the best of company. Add to the purple the gold, but do not mix them; they tell best apart. Calabrian Raisin, Trebbiano, and Syrian have big bunches and make their mark; Waltham Cross, with its monster berries, is effective; Tokay, not often seen now-a-days in its amber, is superb; not forgetting to link the old and new year together by bunches of the most esteemed Grapes—viz., Black Hamburgh and Muscat of Alexandria. They do well together, usefulness being then combined with the highest quality. Black Grapes show best in "frost." Sprays of Ice Plant, which may be kept in a pit from which frost is excluded, answer well for garnishing, and Stachys lanata sprays are little inferior. A few berries of Nertera depressa greatly enliven the "frost" or "hoar," and so do the berries of the Snowberry and white-fruited Euonymus europæus, the opening capsules of which are very beautiful. Vine leaves are always appropriate for ornamentation; failing a supply of them some of the Abutilons, as Sellovianum mar-moratum and S. Thompsoni, are serviceable. Cissus leaves set off white Grapes advantageously with a few sprays of Ice Plant and a few coral berries of the Cotoneaster and Butcher's Broom.

Oranges are indispensable for Christmas dessert, having a peculiar charm if homegrown, large, well-ripened examples are displayed with their own foliage, the fruit being with a portion of wood. But Oranges as grown upon trees barely kept alive are of no use whatever for affording fruit for dessert. Trees for that purpose require a high temperature and plenty of atmospheric moisture; indeed they require as high a temperature as hothouse Grapes, and instead of allowing to go cool in autumn and early winter the house should be kept warm, and after the fruit is well advanced for ripening rather dry, 55° being a minimum at that time; better 60° to 65° by artificial means until the fruit is ripe. Foreign Oranges in this country at this season are not fit to be named with home-grown produce when the trees have proper treatment. The Tangierine is a delicious little fruit; St. Michael's with its thin rind and the Maltese Blood are excellent, and many others, the Egg Orange being quite novel in form and with a juice sweet and refreshing. All should be displayed with their own foliage.

Melons afford a good addition to the dessert. Fruit that ripened late in the season will often keep for a lengthened time in a temperature of about 50°, but are preferably cut just before ripening with a portion of wood, and placed in a vinery where the Grapes are ripe or in a rather dry fruit room. Little Heath is one of the best for this purpose, and the Persian class also keep well. The best of all for Christmas is the Cabul, a large oval fruit of a bright yellow colour when fully ripe; and Khiva is admirable for the same purpose. Garnished with sprays in wreath form of *Passiflora trifasciata*, dotted with the fruit of *Passiflora cærulea*, Melons, whatever may be the flavour, are very effective in appearance.

Pears come to the fore at this time; their russet hues contrast admirably with the shining Grapes and glossy Oranges, though some of them are not wanting in colour. *Beurré Clairgeau*, which unfortunately may not always be kept until this time, is very beautiful; *Forelle* (spotted like a trout) and *Durondeau* (with its splendid colour) unfortunately ripen earlier than this, but they may be kept in earthenware jars in an ice house or cold cellar. Setting those aside we have *Huyshe's Prince of Wales*, *Beurré Sterckmans*, *Beurré d'Anjou*, *Easter Beurré*, *Winter Nelis*, *Glou. Morceau*, *Beurré d'Aremberg*, *Joséphine de Malines*, *Passe Colmar*, and *Knight's Monarch*, which are available at this time. *St. Germain* and *Chamontel* have an imposing appearance, but require a warm soil and to be grown against a wall, or the quality is inferior. Pears may be effectively dressed with small Laurel leaves, preferably sprays with fruit, giving prominence to Portugal over common Laurel. The rich berries of *Pyracantha*, *Cotoneaster*, *Briar heds*, *Japan Quince* (*Cydonia japonica*), and *Siberian Crab* heighten the effect of Pears wonderfully.

Apples come out in strong force. Every housewife keeps back her best for distribution at Christmas. *Api* or *Lady Apple*, though small, is very beautiful; *Cox's Orange Pippin* is scarcely less so; *Court Pendu Plat*, *Margil*, *Pearson's Plate*, *Golden Reinette*, *Golden Pippin*, *Wyken Pippin*, *Scarlet Nonpareil*, *Ashmead's Kernel*, and *Golden Harvey* are all small fruit, but beautiful for the most part in appearance, and are all of high quality. *Ribstone Pippin* is an advance in size over the preceding, *Claygate Pearmain*, *Lord Burghley*, *Cockle's Pippin*, *Golden Russet*, and *Ross Nonpareil* represent half a dozen of the middle-sized Apples of great excellence; and large Apples are represented by *Northern Spy*, which requires a wall to grow it perfectly, *Dutch Mignonne*, *Reinette du Canada*, *Blenheim Pippin*, *Lewis's Incomparable*, and *Lady Henniker*. Some like a soft Apple. *Beauty of Kent* will suit that taste, and please everybody by its very handsome appearance. All the small Apples may be set with sprays of *Cotoneaster* in fruit and haws set in Laurel greenery, the large fruit having a foil of Laurel dotted with *Fairy Apple* in clusters. Heds, and especially berried sprays of *Pyracantha*, are appropriate for setting up Apples.

Nuts must be included (*Filbert*, *Cob*, and *Walnut*), which may be draped with sprays of *Garrya elliptica* with its catkins or sprays of *Evergreen Oak*. The *Filberts* will, of course, be in the husk, but the *Walnuts* should be clean, and if dried the Nuts should be placed in water for twenty-four hours, when the skins will then peel off well, nearly equal to those kept in moist sand.

Medlars complete the list of fruit available for Christmas dessert in most establishments, and they may be dressed with evergreen Thorn sprays, berried of course. More rare are the following:—

Banana (the fruit of *Musa Cavendishi*) is a grand addition to the dessert, and is not an infrequent one in large establishments; but it is difficult to time the fruiting so as to come in just when wanted. Yet suckers in good heat under liberal treatment produce fruit within the year, and the fruit will keep for six to eight weeks after being ripe, cutting off the spadix with a portion of the stem just where the upper tier of fruit is ripening, keeping it in a dry airy room after the manner of late Grapes.

Guava is another fruit not generally cultivated, probably from the fact that the plants in a young state do not bear freely, but when a little aged they bear well, producing fruit in long succession often during the winter months. The purple fruit is well set off by garnishing with foliage and fruit of the *Strawberry Tree* (*Arbutus Unedo*), which do good service also for Bananas.

Grandifolia (*Passiflora quadrangularis*).—Fruit may sometimes be had by fertilising the flowers about August, but they do not set well at that season. *P. edulis* is more accommoda-

ting, setting much more freely; but the fruit is not nearly so large. We have occasionally had fruit of *Tacsonia mollissima*, which is whitish yellow and about the size of an egg, ripening unfortunately in October or November, though occasionally later, and keeping up to this time. They take the eye, the less said about the palate the better. Set up in the leaves of some palmate *Passiflora*, and if the small yellow fruit of *P. cærulea* be dotted around, or the Cherry-like *Cape Gooseberry*, the effect is good. *Tacsonia Van-Volxemi* often is plentifully furnished with fruit at Christmas, but they are not so inviting in appearance as the others, and are simply abominable eating unless ripened in a temperature intermediate between a greenhouse and stove; in fact, these and some others require more heat when ripening than during growth, and then their quality is a little better.

Ugni, the fruit of *Eugenia Ugni*, is desirable if only for its aromatic flavour. It ripens well in a greenhouse, and treated like the *Myrtle* flowers and fruits freely. Set in its own spray, berried of course, the effect is admirable, *Snowberry* berries enlivening them wonderfully.

Pomegranates do not fruit freely in this country as usually grown—viz., against walls, but in an orchard house fruit is occasionally had, and in a heated one with certainty; or with the treatment of cool Grapes fruit would be had as we have seen, but only in one instance—viz., at Well Head, Halifax. They appear best put up with *Myrtle* sprays with their purple seed vessels.

Shadocks have a splendid appearance, requiring the same treatment as Oranges, though, like Lemons, they are not so heat-requiring to secure them, but are all the finer for it. Their own spray is a good set-off, heightened in effect by berried sprays of *Skimmia japonica*.

Strawberries are a good addition. Early-forced plants planted out or, if kept in pots, potted and plunged in an open situation, abundantly supplied with water and housed in late September or early October, affording light airy situations in a house with a temperature of 50° by artificial means, will afford fruit late by a little careful management at this season, the latest-forced plants keeping up the succession, and *Sir Harry* and *Vicomtesse d'Horcart de Thury* swell well late in the season. Alpines sown in spring will afford fruit in winter, and form admirable margins to a dish of larger fruit, setting the Alpine in their own leaves with the fruit in trusses.

Christmas desserts often comprise *Litchees*, *Pomeloes*, *Prickly Pears*, &c., but these can only be obtained from good fruiterers.

I may fittingly close this paper by a brief allusion to plants suitable at this season for table decoration. *Holly* and *Mistletoe* are out of the race for such purpose—theirs is of another character which it is not my purpose to treat. Berried plants are, however, suitable for table decoration at this season. *Ardisia crenulata* with its bright red berries, and the white variety, *A. crenulata alba*, are superb. *Rivina humilis*, with its clusters of red or purplish berries, is very effective. *Calli-carpa purpurea*, with its purple berries, is a neglected but very useful plant. Standard *Otaheite Orange* and *Solanum Capsicastrum* in good fruited examples are very fine. Some of the *Capsicums*, as *Prince* and *Princess of Wales*, are highly effective. There are many plants that might be pressed into the service mostly of a hardy character. Such, however, do not fruit freely enough in small plants. I will close my notes by pointing to a centre for the table of *Variegated Pine* (*Ananassa sativa variegata*), which in fruit is one of the most striking of all table plants.—G. ABBEY.

THE GARDENER'S FOOT.

"WELL, Edward," said I, talking to an old friend as we walked around the garden together, "you have a nice place here, and things grow well. No slugs and snails, eh! like I have; not many birds either to do much damage. Now tell me," said I laughingly, "what does most mischief in your garden." "You will never guess," said he, and a gloomy look came over his otherwise cheerful face. "Don't know," said I, "give it up." "Well," said my dear old friend, "I can trap the slugs and snails, scare the birds, kill the green fly, prevent mildew, burn off the lichens from my trees with lime and soot, but I lose many plants for all that." "How?" said I. "Well," said he, "By the gardener's foot! Yes, the gardener's foot is one of my worst enemies. He walks on my flower beds just as he would a gravel walk, heedless of where his foot goes. In the early spring smash go my plants just peeping through the soil. Twigs and sprays are broken off

my shrubs and plants by his heedless ways, and yet—and yet," said my friend, "he is a very good gardener; but he is not like me, he does not love his plants as I do."

"That is just it," said I, and as I walked home I thought how often—oh! how often—I had seen my own gardener stand on one of my best beloved plants. In fact, I had one gardener who, whenever I went to talk to him, invariably went on the flower bed, as if he felt then on his own ground, and only the path was mine! I lose quantities of good things year by year by being trodden into the earth. I had one plant that I was choice of in particular. I went to look at it last week to see how it got on, but the gardener's heel had got the start of me. There was the mark, and my dear little one scarcely visible, with its heart crushed out.

It is no new thing that I write about. All who have borders know it, feel it, grieve over it. Talk to your man how you will, gently, kindly, loudly, or softly, the result is just the same—he does not mind where he puts his foot. He says, "Oh! yes, I'll mind, I'll be careful," and at the moment he is standing on your only *Aquilegia chrysantha*. When gardeners love the plants under their care, as true gardeners should and do, they will then mind where they put their foot. They will look on every plant as their children, love them and nurse them as such. I do. Hoping this will meet the eye of my friend's gardener and my own, besides that of others that I know, I conclude, wishing and hoping for better times—times not so crushing.—CYRIL.

THE LATE EXHIBITION OF THE NATIONAL CARNATION AND PICOTEE SOCIETY.

ON page 444 "*D., Deal*," says, "I was talking the other day to one of the exhibitors, and a very good grower and dresser of the Carnation and Picotee, when he expressed his surprise at the position which one of our southern growers occupied, and he attributed his inferior position entirely to his mode of dressing. He said, 'I have always thought his style of dressing—that of bringing them up full in the centre, the best; but the winning flowers were dressed much more flatly. I was told this was the northern style, and as I believe the Judges were northerners it is easily accounted for.'"

One may wonder that upon a matter so easy of solution as the question whether the Judges at the late Show were northerners or not, that your correspondent did not at least expend a postcard before promulgating the opinion of the good grower and dresser, whoever he may be, and thus adding to the list of myths his imagination or ready credence of unfounded rumour has given currency to.

The Judges acting at the late Show of the National Carnation and Picotee Society were—for the open class, Mr. Thomas Moore, Mr. Richard Gorton, and Mr. Wm. Hewitt; for amateurs, twelve-bloom classes, Mr. Charles Turner, Mr. John Ball, and Mr. Jonathan Booth; six-bloom classes, Mr. Douglas, Mr. George Rudd, and Mr. E. S. Dodwell; for single specimens, Mr. Simonite and Mr. Lord.

Of the opinions of "*D., Deal*," as to dressing Carnations and Picotees I have nothing to say beyond commending the readers to the excellent and practical remarks of Mr. Farren on page 443, and stating the fact that there is not a solitary exhibitor of these flowers, and, I believe, no one entitled to be called a grower, who is not utterly antagonistic to the views "*D., Deal*," has expressed.

With "*D., Deal*," I see with great pleasure the communication from Mr. Slater, especially as Mr. Slater so honourably recants opinions he formerly expressed, and admits the evils he feared have never been produced. I wish I was able to say Mr. Slater's circumstances were as comfortable as could be desired for his great age; but as that is unhappily not the fact, I hope I may be permitted to say that the bounty of any reader of this paragraph will be gladly received and dispensed for Mr. Slater's benefit by Mr. Samuel Barlow of Stakehill House, Chadderton, Manchester, and it will be a source of great satisfaction to me if this reference shall add to Mr. Slater's much-needed comfort.—E. S. DODWELL.

CARBOLIC ACID AS AN INSECT KILLER.

MY experience teaches me that sulphur, no matter how used or in what form—*i.e.*, either dusted on the affected part or painted on highly heated hot-water pipes, is in no way fatal to red spider. In spite of all known precautions and care last year, both my Cucumber plants and Vines were most terribly

infested last summer with the ravages of this destructive pest. My belief, the result of experiment is, that carbolic acid water not too strong, say one part of the acid previously dissolved in an equal bulk of glycerine, and then diluted with about forty parts of pure filtered water, and either used as spray to the leaves, or even used by means of an ordinary garden syringe, is as certain an insecticide as sulphur is an antidote for mildew.

But my reason more especially for writing to you is to ask for the following information—*viz.*, is it your opinion that the solution of carbolic acid I have named, and used as I have stated to the surface of the infested leaves, proves in any way injurious or detrimental to the health or well-being of the Vines? And further, would adding carbolic acid to the paste used for dressing the rods, or the use of carbolic acid soap in washing the woodwork and glass of the vinery, prove detrimental either to the Vine rods or the young leaves as they arrive? I am convinced that carbolic acid is the surest insecticide and preventive that can be used; and if it does not prove injurious—and I opine it will not—we have in carbolic acid a remedy which will surpass all others, and prove an incalculable boon to all Grape-growers.—W. E. B. A., *Faversham*.

CHRISTMAS VEGETABLES.

ASPARAGUS, French Beans, Mushrooms, Seakale, Rhubarb, Tomatoes, Broccoli, Brussels Sprouts, Cabbage, Savoy, all kinds of roots, and plenty of Celery, Lettuce, Endive, Mustard and Cress, Radishes, Chicory, and Cucumbers, are the principal vegetables from the kitchen garden with which we are furnishing our employer's table during the Christmas week. Most of these vegetables have been referred to before in these pages by me, but now that we are in the midst of them I may say, with a little care they are produced easier than many suppose.

Asparagus we can never have too much of. Next spring we shall plant about half an acre with two-year-old plants of it. This will supply us with forcing roots for several years. What we are cutting now is growing in the bed of a Melon pit; 3 inches of soil is spread out on boards, below which there is a flue. The roots are packed close together above the soil and just barely covered over. With a top and bottom heat of about 60° and plenty of water it grows freely and luxuriantly.

French Beans.—Osborn's and Fulmer's Forcing French Beans are fruiting in 8-inch pots on a stair-like stage at the back of the centre pathway in the same house. We fill a number of pots every two weeks and are never without Beans. Those which we are gathering from now, however, are growing in cutting boxes 2 feet long, 1 foot wide, and 4 inches deep. The seed is sown in 3-inch pots, five and six seeds being placed in each pot, and as soon as the young plants are about 3 inches high they are turned out of the pots and planted in the boxes, eight and ten potsful are put into each box. They thus fruit equally well, and do not take half the space up as those in pots. French Beans are a great delicacy at Christmas as well as during the whole winter, and they have as good a flavour now as in summer.

Mushrooms are quite indispensable as a winter vegetable. They are easily cultivated provided the spawn is good, without this no one will grow Mushrooms. As the horse droppings are gathered daily at the stables they are emptied in an open shed and allowed to lie there until there is a good cartload, when they are brought to the garden, spread out again in an open shed for a few days or a week, as they may be wet or dry, and are then made into a small bed in the Mushroom house. We never make the bed more than 10 inches deep, but this thickness is made very firm. Little pieces of spawn are dibbled in 3 inches deep and 6 inches apart when the heat in the bed is about 80°. When the heat is likely to go down quickly the spawn is covered over at once, 2 inches of soil from any of the kitchen-garden quarters is spread over and beaten down firmly all over the surface of the bed. As a rule the Mushrooms appear about five weeks after this has been done, but sometimes they do not come for six and seven weeks. Mushrooms may be grown in any dark shed or cellar where the heat ranges from 55° to 65°.

Seakale and *Rhubarb* will do in the same place and with the same heat, but they should have a little bottom heat as well. The Rhubarb takes three or more weeks longer to come up than the Kale, and allowance should be made for this when the roots are put in. The quicker the Seakale is forced the more tender it is, but at the same time a temperature of 65° should never be exceeded, as more heat than that makes

the produce tough. Good roots always force quickly in moderate heat.

Tomatoes.—A portion of our supply for Christmas were cut green from plants against the open walls during October, hung up in a cool airy vinery, and allowed to ripen at their leisure. This is a cheap and good way of securing a late autumn supply of fruit; but in case of failure we have several young plants which came into fruit in October bringing many clusters of fruit forward in a Pine house. Vigorous young plants when kept clean fruit as well in winter as in summer. Ours never have more heat than 65° and some nights as low as 40°.

Broccoli.—If ever I said anything good about Snow's Winter Broccoli in the *Journal of Horticulture* I now beg to withdraw the statement. For the last two years it has not come in with me for two or three months after the time it was represented to come in. December is its time, and I have had it come in well at that time, hence my once favourable impression of it; but last year it turned in early in March. From many other kitchen gardeners I hear it is very shifty in this respect. Veitch's Self-Protecting Broccoli is our best Christmas variety this year, and a capital one it is. We have been cutting it since September, and I think with a little scheming in having a good batch of successional plants of it the supply would be unbroken from September until April. I advise all to grow it largely for winter supply.

Brussels Sprouts.—Another season's experience confirms previous impressions that to do this crop full justice the seed should be sown on or before February 1st. Our best were sown on that date in a cold frame and planted out in their permanent quarters early in April.

Celery is plentiful and fine, although planted on a heavy piece of ground; but when the trenches were made dung and loam chopped up and mixed together was placed 6 inches thick at the bottom of the trenches, and it has answered the purpose well. Although the summer was excessively dry water was never applied, and out of two thousand plants not one has "bolted."

Lettuce and Endive are lifted and placed in a dark dry shed to blanch about a fortnight before they are wanted in the pantry. Besides blanching them this is a good plan to have them convenient in stormy weather. Small boxfuls of Mustard and Cress are sown twice a week to keep the supply going. It grows rapidly in a heat between 50° and 60°. The Radishes we are using now were sown during September in spent Melon and Cucumber frames. Chicory is lifted, the leaves cut off, six or eight roots potted in an 8-inch pot, and then set in the Mushroom house to make tender young leaves, which are a capital addition to the salad bowl.

Cucumbers.—We have grown many varieties during 1878, but as yet we have found none to equal Telegraph. It is the only one we have in fruit now.

Peas.—These and new Potatoes would have been added to our Christmas vegetables, but through some alterations in our culture we have none this season. However, they are of easy culture when space can be spared to grow them. The best way we have tried of having Peas now is to sow the seed like French Beans in 8-inch pots about the end of July, placing the pots in the open air and subsequently in a cold frame until cold weather sets in, when they may be placed in a cool vinery or Peach house fully exposed to sun and freely ventilated. Those of the Little Gem type are the best for pot culture, as they can be supported with small twigs like French Beans. Frost must never be allowed to touch them, and throughout they must be carefully attended in the way of watering. Not less than a hundred potfuls should be grown and as many more as possible.

Potatoes may be grown in pots under the same conditions as Peas. Three or four tubers should be placed in a 12-inch pot, using good soil, and covering the sets about 3 inches deep. They may also be grown in frames in the same way as they are in spring, only when planted in July they require no bottom heat to start them; but during October they must be protected from wet, and in November and December from all bad weather. We have planted Potatoes in March, lifted them in June, planted again in July, and lifted at Christmas.—A KITCHEN GARDENER.

LONDON NURSERIES AT CHRISTMAS.

LAST week Mr. Luckhurst remarked on the importance of the resources of the garden as affording indispensable Christmas cheer for British homes. Of the fruit and vegetables "in season"

others have written, and as to plants and flowers nowhere can they be seen in such variety as in the leading nurseries; hence the following brief—too brief notes and observations recently gathered at a few of the metropolitan establishments. First may appropriately be noticed the head quarters of the great firm of

MESSRS. JAMES VEITCH & SONS, CHELSEA.—At this establishment no attempt is made to arrange the various plants for spectacular effect, and the visitor to see all that is to be seen must traverse about a hundred houses and pits. He will first be taken to the Orchids—a collection remarkable for its excellence, its numbers, and its novelty, seeing that it stands alone as containing so many hybrids, which now and again startle by their value and beauty. A firm that can in the same year produce a Cattleya Veitchiana and a Calanthe Sedeni have much to be proud of; but it is not of the past but of the present that we will now refer. Many Orchids are flowering now; perhaps the most really beautiful is Cattleya exoniensis, but striking by its chasteness, grotesqueness, and purity is *Angraecum chalcidanthum*. A sesquipedale will shortly be in splendid condition, one of the plants having five spikes showing nineteen flowers, six flowers on one spike—a very unusual occurrence. Calanthes, as may be expected, are both numerous and fine. *Odontoglossums* Roezlii, a fine variety, and its pure white variety very chaste; also *Alexandrae*, *prænitens*, *Hallii*, *Insleayi*, *leopardinum*, *cirrhosum*, *luteo-purpureum*, *membranaceum*, *Rossii majus*, and *Warszewiczii*; Cattleya Skinneri, and the pure waxy white Skinneri alba; Vandas insignis, suavis, and tricolor; *Cypripediums* Schlumieri, a fine variety, insignis, and insignis Maulei, *Harrisianum*, and the almost ever-flowering Sedeni. C. Laurenceanum is attractive by its large and richly-marked foliage apart from its flowers, and so also is C. marmarophyllum. Flowering now also are many varieties of *Laelia alba*, and the larger L. a. Bella; also L. autumnalis and L. anceps, and the more rare L. acuminata. Amongst Dendrobies we noticed D. superbiens, D. heterocarpum, with its primrose colour and perfume, and D. inocharis; and striking, although not yet in flower, are the splendid growths of D. crassinode, the plants being grown in shallow saucers. *Cologyne cristata* is showing fifty spikes and will shortly be a charming sight. *Oncidium Forbesi*, very fine, and crispum; *Sophranites grandiflora*, a brilliant mass; Vandas, Masdevallia toverensis, and Cattleya Loddigesii superba, *Phalaenopsis grandiflora*, *Epidendrum dichrosum*, *Pilumnea fragrans*, and *Cymbidium Mastersii* also share in the aggregate display.

In other houses several plants, beautifully variegated, of the useful and hardy *Aspidistra lurida* variegata attract notice; as also does a remarkable collection of *Daphne indica rubra* in 4-inch pots, the plants only being a few inches high, clothed with green foliage and studded with fragrant flowers. Another fragrant plant that will shortly be in flower is *Boronia megastigma*, of which there are many hundreds in various sizes. A houseful of Tree Carnations in all the best varieties show how valuable these plants are for winter decoration. *Ericas* Lambertiana, *hyemalis* superba, and others are effective, not forgetting the bright scarlet *cerinthoides coronata*. *Monochætum ensiferum*, flowering freely, has been injured by the fogs; but *M. sericeum multiflorum* equally fine, is perfectly fresh. *Ipomæa Horsfallii*, flowering in small pots; *Cyclamens* a fine strain; *Primulas* single and double, *Justicias*, *Eranthemums*, *Plumbagos*, &c., are also represented, and early Camellias are just expanding. The plants of these both planted out and in tubs are splendid and will eventually produce a fine effect. Many other plants are necessarily passed.

Alterations and improvements are being continually made in this nursery, the latest and greatest being the new seed stores just completed to meet the ever-growing demands of this important department of a business, the magnitude of which few visitors can fully appreciate.

MR. BULL'S NURSERY AT CHELSEA.—Passing through an avenue of lofty Tree Ferns and imposing Cycads remarkable for their stately and sober beauty, the visitor is conducted to a rich display of Orchids, their colours perhaps appearing the more bright in contrast with the great mass of greenery of the plants above noticed. The Orchids are effectively grouped, and produce an unquestionably beautiful Christmas show. Most prominent by its stately growth and fine spikes of rosy purple flowers, many of the petals wired with white, is the valuable Australian Dendrobe, D. superbiens. The Bamboo-like growths of this Orchid, 3 to 4 feet long, bearing near their summits fine spikes of partially drooping flowers, command, and justly so, the admiration of all visitors. Several plants are flowering, producing a mass of nearly twenty spikes. Not only is this Orchid intrinsically beautiful, but it can be easily

grown—not requiring a special structure nor a high temperature. It is remarkable also for the long-lasting quality of the flowers, they, under favourable circumstances continuing fresh for a quarter of a year. Such a combination of desirable qualities must render this plant very popular, and will create a desire on the part of many cultivators to obtain it. Other Orchids in beauty at the time of our visit were *Lælia anceps* and *L. anceps alba*, which has been recently certificated; *Odontoglossum nebulosum*, a remarkably fine variety; *O. vexillarium* roseum, rosy lilac and very beautiful; *O. Rossii majus*, *O. madrense* and *O. Alexandræ*. *Oncidiums* were represented by *O. Weltoni*, a fine variety, and *O. triumphans*. Charming by its chaste pencillings and pure white margin was *Cattleya maxima*; and very rich were *Masdevallia Harryana cærulea* and *Sophronites grandiflora*. *Cattleya Skinneri*, *Zygopetalum Mackayi majus*, *Philumena fragrans*, the curious *Bollea celestis*, *Cypripediums Sedeni*, *Harrisianum* (a fine variety), *insigne Maulei*, and *Vanda cærulea* were all in excellent condition, and dozens of fine spikes of *Calanthe Veitchii* and other varieties contributed greatly to the attractiveness of the house.

But while the Orchids in flower are naturally the more immediately noteworthy, Orchids out of flower are imposing by their numbers. A large house is filled with *Dendrobium nobile*, and “over the way” several houses in the new nursery are occupied by recent importations of these growingly popular plants. New plants in considerable variety, some beautiful, some curious, command a share of attention, and particularly striking is a houseful of *Dracæna Goldieana*. *Crotons*, *Palms*, and *Ferns* in almost all sizes contribute in an important manner to the general effect; and in contrast are potfuls and boxfuls on the stages and under them—wherever space can be provided—it may truthfully be said, scores of thousands of the valuable commercial plant the Liberian Coffee, which are grown to meet the great demand for exportation. Thus the nursery is interesting as well as attractive.

MESSRS. E. G. HENDERSON & SONS.—Unmistakeable signs of the near approach of Christmas were manifest on our visit to the Pine Apple Nursery. In the forecourt near the large conservatory Christmas trees were arranged—handsome Spruces ranging from 6 to 18 feet in height, the firm having a great demand for such trees. The interior of the large building is extremely attractive, very great improvements having been effected in the arrangement of the plants, and sound judgment having been exercised in selecting those that are best adapted for the adornment of such a fine structure as this is. The house, however, is not brilliant: indeed flowers play a small part in its embellishment, yet the effect is most pleasing from the free, natural, and picturesque manner in which the plants are arranged. Towering above all are two magnificent specimens of the Abyssinian Banana—*Musa ensete*. Although only planted two years ago, one of these plants is now 25 feet in height, the stem near the ground measuring nearly 6 feet in circumference, and the leaves, without the bare leafstalk, being 13 feet long. These noble specimens have a most distinguished effect. In fine contrast are handsome Tree Ferns, Fern-clad rocks, aquariums, stately *Araucarias*, *Palms*, *Yuccas*, and *Agaves*, relieved by such variegated-foliage plants as *Euonymuses*, *Euryas*, and variegated *Ivies*, and further brightened by flowers—*Ericas*, *Primulas*, *Hyacinths*, *Cyclamens*, and other flowers incidental to the season; and the visitor cannot fail to admire a remarkable specimen of *Aralia papyrifera*, which is flowering freely.

The other numerous and extensive glass structures are crowded with plants, many of them very rare, others beautiful, and all healthy. Orchids are in large numbers, the beautiful *Dendrobium Wardianum* having made remarkable growths which are studded with flower buds. These plants will shortly be a fine feature in the nursery. One or two of them are already in flower, and the others will follow rapidly. The collection of cool Orchids merits notice. The fire heat was applied to the house from April to the third week in October, and no plants could look more healthy. *Odontoglossums* are throwing up their spikes with great freedom. The night temperature of the house is now 45°, and it is worthy of remark that such plants as *Cymbidium Masteri* and *C. eburneum*, also Indian *Crocuses* (*Pleiones*), are flourishing in the most satisfactory manner under this cool treatment. Several Orchids are in flower which we cannot enumerate, but one not frequently seen is *Gomezia recurva*. The plants growing in the shells of the Brazil Nut (*Bertholletia excelsa*) have an unique effect. Amongst other flowers there are Tree Carnations in thousands—a wonderful collection; double *Primulas*, for which the firm

is famed; *Bouvardias*, which are largely grown; *Jasminum grandiflorum*, very useful for cutting; and not less useful the White *Azalea narcissiflora*, which is extensively grown; several *Amaryllises*, including the charming *A. O'Brieni delicata*, pure white striped and spotted with delicate rose. It is the result of a cross between a variety of *A. pardinum* and *Hippeastrum reticulatum*, and is a decided acquisition. Many thousands of *Amaryllises* are grown, and the collection of Cape bulbs is very extensive. *Sonerila Hendersoni* var. is a charming dwarf plant for this season, with rosy lavender flowers; and very striking is *Hæmanthus albo-maculatus*, with its pure flower heads and attractive foliage; and especially so, but of a different order of beauty, is *Tydeæ Robert le Diable*, with its large, numerous, scarlet and almost black flowers.

These flowers—with a fine collection of Ferns, *Anæctochilus*, *Crotons*, and other fine-foliaged plants—render the nursery particularly interesting. Improvements are being effected on an extensive scale, and the nursery is highly worthy of note and inspection.

MR. B. S. WILLIAMS, HOLLOWAY.—Visitors cannot visit this great northern metropolitan establishment at any time without finding much to admire. In the height of summer and the depth of winter flowers are always present, with plants remarkable for their high culture, rarity, and beauty. At this period of the year the most beautiful flowers are of course found in the Orchid houses, and there they are provided in plenty. *Calanthes* are represented by hundreds, *C. Veitchii* predominating, it being admittedly one of the most useful of plants for decoration at Christmastide. *C. vestita* in variety are also represented, also the distinct and much less common *C. masuca*, the flowers being first blue, changing with age to port-wine colour. *Oncidium Forbesii*, *cheiroporum* with twenty spikes, and varicosum; *Sophronites grandiflora* in rich masses; *Lælia autumnalis*, *Dendrobium bigibbum*, *D. formosum giganteum*, which continues so long in beauty, and *D. superbiens* which continues still longer—the plant for which Mr. Williams had a first-class certificate having remained in beauty (the same flowers) for thirteen weeks; *Odontoglossum nevadense*, very distinct; *Oncidium Weltoni*, fine variety; *Dendrobium Johannis*, various *Cypripediums*, and the curious *Masdevallia polysticta*—upwards of fifty flowers—are some of the Orchids now flowering at Holloway. Advancing for flower are the striking *Angræcum sesquipedale*, *Phalenopsis Schilleriana*, fine spikes, which probably produce fifty or sixty flowers, and *P. amabilis*. In the cool Orchid house *Odontoglossums* are showing freely, the plants being in admirable condition; and equally so are fine masses of *Cœlogyne cristata*. In fine contrast with the Orchids, and adjoining them, is the fine collection of Filmy Ferns, some of the more slender of the *Trichomanes* being grown on the old stems of Tree Ferns about a foot in length, each protected with a glass shade—chaste ornaments for rooms.

In other houses we noticed a wonderful plant of *Rondeletia speciosa* major, valuable for affording a supply of bright flowers for cutting; *Ipomæa Horsfallia*, flowering in 48-sized pots; new varieties of *Azalea* of the *amœna* type, which Mr. Williams is now sending out, and which will prove welcome acquisitions to those who obtain them, flowering as they do so early and so freely without much forcing, and giving colours bright and new. *Camellias*, of which there is a fine collection; a late white *Chrysanthemum*, flowers small and numerous, and just expanding, is proving useful for bouquets; *Ericas mutabilis* and *Bowieana*, and *Daphne indica rubra* are also attractive now. Brightness is provided by *Solanums*, the best of all of which is *Empress*, but this is not so plentiful as older varieties.

Amongst ornamental-foliaged plants many fine *Palms* arrest attention, from the massive *Verschaffeltia splendida* to the slender *Cocos Weddelliana*. *Kentias*, too, are both elegant and rich in colour, and rank amongst the most useful for decorative purposes. Amongst Ferns *Gleichenias* are noticeable, and the soft refreshing green of *Microlepia hirta cristata* improves in beauty as it increases in size. Plants with brighter foliage are provided in *Crotons* and *Dracenas*. Of the former Prince of Wales is quite one of the most beautiful, *Williamsii* is massive and rich, and *Burtoni* is striking by its deep orange-yellow markings and its rich contrasting green. *Dracenas* are equally fine—*Frederici* as an elegant table plant, also Mrs. Bause; while more massive and rich in colouring are *Bausei*, *Berkleyi*, and some others of the *Anerley* seedlings. The nursery throughout is in admirable condition, and a visit to it and its genial owner is always enjoyable.

MESSRS. CUTBUSH & SON, HIGHGATE.—When at Holloway it is natural to travel onwards and upwards for a little distance to see the prettily situated nursery of this old firm and its respected head. But to see flowers at Highgate the "bulb season" must be selected, when the conservatory is bright indeed. Only a few Hyacinths are now advancing, the prize bulbs being yet buried outdoors with cocoa-nut fibre. If gardeners and Hyacinth growers generally who desire to excel in the culture of these flowers could see how they are protected at Highgate and Coombe (Messrs. Veitch & Sons) they would cease starting their bulbs under greenhouse stages. "A hint is as good as a nod," &c.; and we pass on. The feature of Highgate at this season are the handsome shrubs, especially standards of Bays, Hollies, &c., imposing pyramids (grand lawn ornaments), of the Caucasian Laurel and the Magnolia-like *Laurus rotundifolia*. Weeping trees, too, are a specialty; Young's Weeping Birch, very elegant; Ashes, Limes, Elms, &c., which are prepared with great care. These trees when heavily draped, as we saw them, with frost crystals resembled fountains of silver, and the effect produced was singularly chaste. The houses were filled with plants, but chiefly Palms and other plants of that nature. The hardwooded plants, such as Camellias, Ericas, and Epacris, are grown in the purer air of Barnet, and are draughted to Highgate as required. Fourteen thousand Epacris are annually grown by the firm, and other plants in proportion. At present the flowering plants chiefly consist of Ericas hyemalis, very fine; caffra, gracilis, and colorans, all of which are extremely useful for decorative purposes at this season of the year.

MR. WILLS, FULHAM AND ANERLEY.—Since Mr. Wills purchased the Fulham Nursery a few months ago great alterations have been made, an open frontage having been formed next the Fulham Road, and new structures have been added to the extensive ranges of glass that previously existed. The large stock of flowering and ornamental-foliaged plants in Mr. Wills' nurseries afford evidence of the public taste in reference to plants and flowers for home adornment, nearly all the products of the two establishments being devoted to what may be termed domestic purposes, and in addition large quantities of flowers and numbers of plants are purchased to meet the daily demand for them. As a rule flowers and very large plants, such as Palms and Azaleas, are grown at Fulham, and Ferns and choice fine-foliaged plants, such as Crotons, Dracenas, Nepenthes, &c., are provided at Anerley. At Fulham a house has recently been erected solely for growing the white Lapageria, and another for Tea Roses. The Lapagerias are planted out, and the Tea Roses are in pots. When Mr. Wills finds out how admirably Tea Roses succeed when planted out in a stove temperature, as they are grown in the Pine stove at Lambton Castle, and in briskly heated pits as in Lord Londesborough's garden at Norbiton, he will probably adopt the same mode of culture for producing "buttoniers" of the first quality for Christmas.

The collection of cool Orchids is being greatly extended at Fulham, and well the plants look; but the spikes are cut as fast as they are produced. The same remarks apply to the beautiful *Lælia anceps*, which is grown by hundreds. A large house is entirely filled with Begonias of the Rex type, so great is the demand for these plants for various purposes of decoration. Another house is planted with Gardenias—a perfect thicket of them for affording cut blooms. Another house contains *Pancreatium speciosum* and fragrans, the flowers of which and Eucharises are always acceptable. In one of the houses we noticed several plants of a striking *Zamia*, the fronds of which were deep red in colour and highly effective. Bulbs are grown by thousands packed as closely as possible in shallow boxes, and rich soil and copious supplies of water do the rest. This is all that can be said about Fulham; and as to Anerley, if anyone desires to see a Fern, a Dracena and Nepenthes manufactory and other plants rare and popular increased and cultivated well, they will find such work well carried out there by Mr. Bause.

MESSRS. OSBORN & SONS, FULHAM.—It is very gratifying to all interested in the prosperity of this old establishment to learn that under the energetic management of the sole surviving male representative of the firm, Mr. R. Osborn, and able coadjutors the nursery is in a very improving state. Fruit trees and Vines in pots are a great specialty, and the stock of them is both extensive and excellent. In the houses there are plenty of foliage and flowering plants, including Ferns and climbers of the leading varieties suitable for decorative and other uses, usually to be met with in large nurseries. In the show house there is a great variety of Palms, *Araucaria excelsa*, *Aralia Sieboldii*, *Phormium tenax variegatum*, Camellias, Ferns, Aucubas

beautifully set with berries which are now changing colour. *Laurustinus*, *Primulas*, *Cyclamens*, &c., all alike healthy and useful. In the stoves the Dracenas, Crotons, Pandanus, Palms, Ferns (noticeably *Adiantum farleyense*), &c., in variety and of various sizes, are remarkably clean and healthy. Among the Palms we noticed attractive plants of *Areca crinita*, A. Herbstii, *Cocos Weddelliana* and *Kentia canterburyana*, as being particularly well adapted for table and house decoration.

In the hardwooded house the Ericas and Epacris look particularly well, and promise an abundance of bloom. *Acacia grandis* will shortly be covered with its miniature yellow balls, and dwarf plants of the useful pure white *Jasminum grandiflorum* are flowering freely. *Lomatia propinqua* is a very graceful green-foliaged plant, and does well in a cool house. In an intermediate house *Tropeolum Ball of Fire* trained along the roof is flowering freely. Libonias are also attractive. In this house is a good stock of the much-improved varieties of double *Primulas* raised by Mr. Gilbert of Burghley, and certificated by the Royal Horticultural Society, which this firm will shortly send out. The colour of Mrs. A. F. Barron is blush slightly striped with red; Princess, white slightly blotched with red; White Lady, a good white; and the Marchioness of Exeter, white slightly spotted with pink. The plants are more vigorous, flowering freely, the individual flowers much larger and more double than the old varieties.

Among the hardy shrubs *Euonymuses* in variety are very attractive, they are suitable for either pots, shrubberies, or beds.

MESSRS. C. LEE & SONS, HAMMERSMITH.—The Christmas display of this firm is now arranged in the Royal Horticultural Society's Gardens at South Kensington, and a splendid display it is of hardy ornamental shrubs, for which a gold medal was awarded at the last meeting of the Committees. This fine collection merits a fuller notice than has yet been accorded to it or than can be given now. Such notice must be deferred to a future issue of the Journal, for notes of plants of such perennial beauty are always seasonable.

CHRISTMAS ROSES.

ROBUST hardy perennials, comprising some of the gayest and earliest flowering of winter or spring plants. Hellebores produce their flowers at a season when few others can brave the inclemency of the weather, the genus belonging to the same natural order (*Ranunculaceæ*) as Winter Aconite, one of the first flowers of the year.

The whole of the species delight in moisture and some in shade, but shade is only essential when the soil is light and shallow, the plants thriving well in the full sun where the soil is deep and retentive. One of the greatest defects in their culture is disturbing them. All they require is planting in soil moderately enriched, deep, retentive or rather moist, and in slight shade in shallow soils, but the shade should be that of a deciduous kind so as to admit of the plant enjoying the full light in the early part of the year. Beyond keeping them clear of weeds, and giving a mulch about the plants in autumn they require no further attention, continuing to grow and increase in size and beauty annually, indeed when undisturbed they succeed to admiration.

Propagation is effected by dividing the plants when in a dormant state, or by seeds, which should be sown so soon as ripe in the open ground and covered lightly with fine soil.

Owing to the fickleness—uncertainty of our climate, Christmas Roses cannot always be depended upon at the festive season. I lift a few roots of the early-flowering varieties in early autumn, pot them in pots that will hold the roots nicely, using rich compost, and place them in any light airy house from which frost is excluded, draughting them into heat if necessary so as to have flowers at Christmas. I have now flowers of *Helleborus niger maximus* and *H. olympicus*, and have had for some time past. The individual flowers are fine for ladies' hair, and the buds on the point of opening are excellent for the "button hole."

In the open ground to have flowers with certainty the plants should have handglasses with moveable tops, or frames placed over them, admitting air freely in mild weather, but protecting from heavy rains and snow, further placing mats over the lights in severe weather. The blooms are much finer thus cared for than when they have not received any attention. The finest plants I have seen were grown upon a south border in front of a house—a stove. They were in a double row, the plants being about 2 feet apart, and the soil a retentive loam,

the surface being mulched with short decayed dung. In winter they are covered with spare lights, a lean-to being formed by placing the lights just beneath the spouting of the house. The supply of flowers afforded by these plants is wonderful—the gardener says they are far more useful to him than any plants he grows occupying similar space. The improvised frame has sufficient heat from the house against which it is placed to exclude frost, flowers being produced from early December onwards.

Helleborus niger.—The Christmas Rose is an appellation derived I think not so much from the flowers, which in mild seasons begin to expand towards the close of the year, as from the opening flower or buds resembling the bud of a Rose joined to the time of flowering. It is a native of the mountainous woods in many parts of Europe—Austria, Piedmont, Greece, the Pyrenees, and the Apennines, and is an old favourite, having been introduced in 1596. The plant grows from 9 to 12 inches high; leaves rather large, smooth, pedate, and pro-



Fig. 72.—HELLEBORUS NIGER.

duced after the flowers. Flowers large, cup-shaped, white or lightly rosy, borne in scapes from the end of December to March. The flowers are the purest in colour at first opening, afterwards changing to pink, and becoming green before fading. *Helleborus niger maximus* is the finest form of Christmas Rose, the flowers being large, nearly white when fully expanded, and very beautiful in bud. It is a magnified *H. niger*, flowering more freely, and nearly a month earlier. It should be in every garden.

H. orientalis is plentifully found in the east, on mountains in most parts of the Levant, on the Bythinian Olympus, and about Constantinople. It is synonymous with *H. officinalis* and

H. olympicus ruber, and is the Black Hellebore of the ancients. The flower stems grow about 18 inches high, more when the plants are vigorous, with forked peduncles bearing large solitary flowers, with the sepals more or less pointed and permanent, when young white, slightly stained with purple at the edge, changing to green when old. The radical leaves are on long stalks, pedate, regularly serrated on the margins; the floral are without footstalks, palmate, and finely toothed. It usually commences flowering with me in early December, but this year the plants have not yet flowered, attributable to division of the plants in spring, the wrong time for increase. The flowers are produced with the leaves, or rather fresh foliage

precedes the flowers. Altogether it is a very desirable species, and very hardy.

H. olympicus has many synonyms—viz., *colchicus*, *guttatus*, *abchasicus*, and *olympicus albus*. Radical leaves palmate,



Fig. 73.—HELLEBORUS ORIENTALIS.

segments oblong linear, and toothed on the margin except near the base, which is entire; floral leaves large, stalkless, sharply serrated on the upper half. Flowers cup-shaped, white, slightly tinged green; sepals bluntly egg-shaped, persistent, produced on forked flower stems 12 to 15 inches in height, they and the leafstalks mottled with reddish brown spots. It flowers with

me in December onwards, and is a fine species from the Bythian Olympus.

H. odoratus is, as its name implies, sweet-scented, the flower stems rising 12 to 15 inches high, forked near the top, having large solitary greenish white flowers. The sepals ovate, oblong, and permanent. It is a native of Hungary, and flowers about the same time as the preceding, being much finer assisted with protection.

There are many other species of Hellebores, but they do not flower until later in the winter, and do not come under the head of Christmas Roses, though they are fine for the herbaceous border, being alike interesting and beautiful.—G. ABBEY.

ORANGES.

ORANGES are pre-eminent amongst Christmas fruits, and the following notes abridged from the *Standard* will be read with interest at this season:—The importation of Oranges has recently commenced. Our supply comes chiefly from St. Michael's, one of the Azores Islands: from Terceira and Fayal, also belonging to that group; from Valencia, and several other Spanish ports; from Lisbon, Villa Real, Aviero, and Oporto, and from Palermo, Malta, and other ports in the Mediterranean. The earliest arrivals are from Spain, Portugal, and Sicily, the famous St. Michael's Oranges being a little later. The St. Michael importation does not last much beyond the end of May, and this class of Orange is at its perfection about Christmas, and then it is the best Orange that can be got, though complaints are now heard in the trade that the St. Michael growers have of late rather grown for quantity than quality.

The St. Michael's are now brought to this country exclusively in steamships, each carrying about 10,000 boxes; but a new vessel will be in the trade this season which will bring from 20,000 to 24,000. The boxes in this branch of the trade contain about 350 Oranges in each, though they are not counted, as are the numbers sent in the boxes from Palermo and Valencia, the latter containing 420 or 490, and the former 200 of large and 360 of small fruit. Probably there are more Oranges imported from Valencia than from all other ports together. The St. Michael's are packed in the dried leaves of Indian corn, but all other Oranges in paper.

The "Blood" Oranges, as they are called, come mostly from Valencia, but a few from Malta, from which latter place we also get the egg-shaped fruit. Both of these command much higher prices than ordinary consignments. The aromatic and delicious "Tangerines" hail from St. Michael's, and also from Lisbon, varying very considerably in price according to the supply. Seville Oranges come from the place of that name, and, as everyone knows, are used exclusively for making marmalade and orange wine. For both these purposes, however, the Palermo "bitters" are really better adapted; and it may not be generally known that the best marmalade of all is produced from the Shaddock—a sort of cross between an Orange and a Lemon, and named after a Captain Shaddock, who brought it from China, or as some say, from Guinea, and planted it in the West Indies, whence we now derive our limited supply. It is the bitter element in the Seville and Palermo Oranges which fit them for marmalade, as it preserves the skins while they dry.

The great bulk of St. Michael's and other Oranges are landed at Fresh Wharf, Thames Street, but those from Lisbon generally in the London Docks. The fruit is shipped to London merchants, who advance large sums of money to the foreign growers, and then it passes at once into the hands of the brokers, who sell it by auction, holding sales from three to five times a week, according to the season. Pudding Lane, Thames Street, is their head-quarters, and, if not quite an Orange grove, is busy enough with the Orange trade; long strings of white-stockinged "fellowship" porters carrying the boxes almost all day long without intermission during the busy season from the riverside to the warehouses. A large quantity of the fruit sold finds its way to Duke's Place, a quarter of the Hebrew region of Houndsditch, where it is resold to shopkeepers and costermongers. This locality is redolent of Oranges, and it is no exaggeration to say that you may often walk for yards there ankle-deep in decayed Orange pulp and peel. As it is a somewhat delicate subject to touch, it may be as well not to say anything about the price of Oranges as realised at the brokers' sales; but a few statistics of the quantity imported may be interesting. Twenty years ago it was thought rather a wonderful thing that the metropolis should be supplied with one hundred millions of Oranges yearly. There are now sold in Pudding

Lane and its vicinity something like three or four times that quantity, of which by far the greater portion is consumed in the metropolitan district.

The increase in the trade is due in a great measure to the abolition of the duty. Formerly 2s. 6d. per box was the impost; in 1853 it was reduced to 8d.; and altogether abolished in 1861. Last year 732,000 packages came to London. A steamer with 10,000 to 12,000 packages brings somewhat over one Orange each to the three and a half million inhabitants of the metropolis. Glancing at importations to other ports, we find that last year Liverpool received 715,000 packages (a large portion of which were transhipped to America); Hull received 227,000, and Bristol 110,000. If we add to these the packages received at minor ports, we shall have in round numbers nearly two million packages; and these again would represent something like a consumption in the United Kingdom of seven hundred million Oranges annually. Every year is more than likely to see a large increase on these figures. Last year, according to a calculation made by the Board of Trade, there were imported of Oranges and Lemons together 3,533,781 bushels, representing a money value of £1,549,765, first hand.

GARDEN FENCING.

I THANK all those contributors for their practical suggestions communicated to the Journal respecting fencing for the Experimental Garden. As the site of the garden is at Sandy in the centre of the Bedfordshire market-garden district there is little need for especial protection from cattle; but as experiments will be carried on it is necessary that a reasonable protection should at once be afforded against all intruders, and as yet I cannot discover anything so well adapted to meet all requirements as a wooden wall and a paled post and rail fence, and in the economical construction of which so much depends upon the local materials available. But here timber of all the usual kinds is reasonably cheap. Stretched wire netting can be quickly fixed at a moderate price, takes up but little space, and as a temporary fence is tolerably secure against two-legged marauders; for a south side where little shade is required I think it may be used advantageously, and seems preferable to flat bar fencing.

Quick Thorn, Holly, Privet, Spruce, or other green fence, except for the purpose of shelter or to act as a breakwind, is undesirable, as, in addition to the period which must elapse before a secure fence can be formed, the roots travel far in search of nourishment, and when the hedge becomes established it exhausts the ground for a distance of at least 6 feet on each side; and allowing 4 feet for the width of the fence, a space of upwards of 5 yards of valuable ground is almost monopolised, and this continued round a three-acre piece would amount to a serious diminution. The neighbouring market gardeners here are so fully alive to this that they shelter their Cucumbers and other tender crops with rows of Rye or staked Peas. Holly fences do remarkably well on the greensand in this locality, and in the favoured parish of Aspley Guise near Woburn, now much resorted to by patients suffering from pulmonary complaints, there is a hedge of Holly by the roadside from 20 to 25 feet high, nearly a mile in length, and almost without a break; and in the pretty village of Old Warden near here there are well-kept hedges of many kinds of variegated and other Hollies intermingled, which are charmingly luxuriant and healthy.

In the Bedford allotment gardens on a cold drift clay is a perfect hedge of Sweetbriar, 5 feet high and nearly 300 yards in length, extending round three sides of one of the allotments, and forming one of the most perfect and secure fences I have ever seen. And to show how much may be done by using the right materials for a live fence in a particular locality, I have seen in the Atlantic-washed coasts and saline atmosphere of the counties of Galway and Mayo good sound hedges formed of *Fuchsia Riccartoni* 12 feet high, and with others as thick as a man's arm, and where scarcely anything else but Elder will grow. The beautiful *Escallonia macrantha* in the more favoured spots in that locality is also used for dwarf garden fences.

Some years ago I tried in Lincolnshire various strong-growing Roses for divisional garden fences, and I found nothing equal to the hardy and vigorous H.B. Charles Lawson; it is a free and rapid grower, and when well cut-in at first makes a dense and secure hedge, and I intend again using it in the formation of the Rose garden in the Experimental. I have a suspicion that in most localities good old Gloire de

Dijon might be used for the same purpose; and doubtless some of your readers have hit upon other materials which may be of advantage for use on particular soils and in particular localities.—T. LAXTON, *Bedford*.

LIVERPOOL CHRYSANTHEMUM SHOW.

THE blooms exhibited at the above Show, according to Mr. Ollerhead's letter on page 448, were without quality, size only having been the aim of the growers. We know that some of them were overgrown, but we do not hesitate saying that the first-prize blooms (Mr. Tunnington's) were in form, colour, and general condition excellent. We ask Mr. Ollerhead to give his candid opinion respecting these blooms, and also of the first-prize six plants. Mr. Wallis of Keele Hall includes the first-prize twenty-four blooms with the others as being coarse, and describes Mr. Ollerhead's as "a nice even lot," and according to Mr. Wallis's remark it would appear that he thought the Wimbledon blooms entitled to a prize; yet if we remember rightly, when Mr. Ollerhead first saw Mr. Tunnington's blooms he admitted their superiority, and it is evident therefore that they must have possessed other good qualities besides mere "size."

We would now point to other matters of paramount importance. On what principles are Chrysanthemum growers to prepare their blooms for the future, and by what points ought judges to be guided to a right decision in making their awards? How can a judge decide on the quality and the age of the blooms if the lower petals are removed and only a compact small ball of the centre of the bloom is left to be shown? With such treatment a "nice even lot" could soon be made, but what is to guide the judge to the conditions of the bloom when the guard petals are gone, as we suppose they are shown in the south? There are blooms under cool treatment which require six weeks or more to open before the centre petals are properly developed; in this time the guard petals are fading, and such blooms are of no use for showing at Liverpool, while on the other hand they would be fine blooms with a portion of the petals removed as shown in the south. We are at a loss to know if a bloom with its lower petals removed is a Chrysanthemum proper or only half a flower: this is a point that should be made clear.

The bloom we consider suitable for exhibition should be perfect in form, containing all its lower petals, and being at the same time well filled in the centre and as large as it is possible to grow it without being loose, ragged, and coarse. The first-prize blooms, in our way of thinking, were exhibited as Chrysanthemums ought to be. If Mr. Ollerhead thinks differently we hope it will be good enough to point out their faults for the purpose of affording instruction. The growers in this neighbourhood are anxious to have some recognised rule to direct them in the future. Are the blooms to be perfect, containing their lower petals, or may they be removed and the centres shown? and what varieties are allowed to be shown as incurved flowers, and if the blooms are to be shown on paper collars or not? If some idea is given of the standard to be attained we shall know in what form to exhibit in case of a contest next year in London, Birmingham, or elsewhere. I send by this post four blooms as grown in this neighbourhood for ordinary decoration. They are as they are cut from the plants, and, as you will see, a little past their best.—WILLIAM BARDNEY, *Norris Green*.

[The blooms are good as grown for decorative purposes, but they do not possess the solidity requisite for exhibiting at the southern shows.—EDS.]

YOUR correspondents Mr. Bardney and "ALLERTON"—(the latter I observe does not give his proper name)—both complain of my having omitted to give praise to other exhibitors who took part in the various competitions. I simply felt it my duty to make the now historical exposure and I left the remainder to the discretion of your reporter. They both say I have given a correct account: this I always endeavour to do, and I feel they will pass the same verdict on my last letter, which I hope has met their views. Your correspondent errs when he says that a stand containing Fingal and Faust would be disqualified in the south of England. This would not be so, but an exhibitor would find that such coarse blooms would put him several points in the rear of his opponents with more compact blooms of the Rundle type. He is also, in my opinion, equally in error when he says they were two of the finest blooms in the Show; had he said two of the largest and

coarsest-petaled blooms, counting the fewest points of merit, he would have been right. As I before stated, it is like putting a coarse Drumhead Cabbage against well-finished blooms and deciding in favour of size.

As to the challenge of your correspondents to contest honestly and fairly with growers from any part either in or out of London if we only give them an invitation. I have to reply that I publicly gave them an invitation to Kingston, and told them what money and cups were in store for the successful competitors. The Liverpool growers must not forget that their representative at the Aquarium, Westminster, with his twenty-four blooms was nowhere against the southern growers. As regards the explicitness of our schedules, I enclose you a copy of the Kingston schedule, which is a fair sample of those issued about London, to compare with the Liverpool one. In the latter you will see prizes are offered for so many large-flowered and Pompon varieties. One would suppose the former meant large-flowered of any type, but on inquiry through the press I found it means incurved varieties only. I should like the Kingston schedule to be forwarded to "ALLERTON," and I ask him where we lack explicitness.

As to names of varieties, whoever heard of an exhibitor writing to his opponent to know what dishes of fruit, vegetables, or what varieties of plants or cut flowers he was going to stage against him? The Liverpool growers must use judgment in the matter if they are going to compete against the south.

As regards their challenge to meet us at any Chrysanthemum show out of London, or even in London, I think I may take the responsibility of saying that we accept the challenge under the following conditions—viz., that the growers of Liverpool and northwards subscribe £10, £20, or £25, as may be approved of, to pit against an equal sum contributed by the southern growers, for the purpose of purchasing a challenge cup or trophy to be contested for next year, as may be arranged for, by the north and south countrymen. We need not depend on two cultivators to make the awards. I think Kensington will be the most suitable place for the contest, and the Floral Committee the best judges to make the awards, and I have no doubt they would be very pleased to make arrangements to meet the views of the exhibitors as to date of show, &c. If £50 could be raised it would make a handsome prize and bring out our best talent in Chrysanthemum growing, and would also be of great benefit to the Royal Horticultural Society. If this scheme is approved, Dr. Hogg, as Secretary of the Society, will by my request act as treasurer to the fund. I shall be glad to see any practical suggestions in the Journal relative to carrying out in a proper and satisfactory manner the proposed Chrysanthemum tournament.—J. OLLERHEAD, *The Gardens, Wimbledon House, S.W.*

HEATING BY PARAFFIN STOVES.

PARAFFIN stoves may be used in greenhouses without injuring the leaves of Geraniums or any other plants in the house, by placing a large basin of hot water on the stove. If the water is warm when placed in the house it will keep hot all night, a guinea stove keeping a small greenhouse at the present time at a temperature of 45° during the night without other heating. The stove used is Ripplingill's patent. My son has used the stove mentioned most successfully in warming his greenhouse this winter, which was full of Zonal Geraniums.—E. G. H.

THE EARLY HISTORY OF THE APPLE.

THERE can be little doubt that the Romans on their arrival in Britain found Apples growing there; for the Crab is indigenous to the soil, and the Apple is but a cultivated Crab. Cæsar makes no allusion to fruit. He describes the Britons as more a pastoral than an agricultural people. But some parts of the island, he says, were already fruitful in corn, especially, as it appears, in the districts inhabited by the Belge, who had recently crossed over from the Continent. ("De Bello Gallico," v. 14.) Tacitus, who in his "Life of Agricola" gives the most interesting and trustworthy account of ancient Britain which has come down to us, does not mention either Apples or Pears, but expressly says, "The soil is adapted for produce of all kinds except the Olive and the Vine, and other things (fruit trees) accustomed to grow in warmer countries, (and is) fruitful: they are quick in coming, slow in ripening, both effects arising from the same cause—the excessive dampness of

soil and climate."—"Vita Agric." 12.) There can be still less doubt that the Romans as they settled down in Britain brought with them the varieties of fruit they had been accustomed to use in Italy, though there is no distinct record of their having done so. They ever loved to surround themselves with the plants of their own country, and it is to them we owe the introduction of the Elm, the Box, the Walnut, the Cherry, and the Pear. The coarse pot herb *Alexanders* (*Smyrnum olusatrum*) is generally found in the neighbourhood of Roman earthworks, and unwittingly they brought the Roman Nettle (*Urtica pilulifera*), which still haunts some of the ruined Roman stations in England. From the country in which the Romans settled the fruit there would gradually spread through the country. In the third century the Romans obtained permission, it is said, of the Emperor Probus to introduce the Vine into Britain, and soon made wine from the fruit.

It is natural to suppose also that as the native inhabitants receded before the invaders, they too would carry with them their own varieties of Apples into the most remote districts of the country. The Druidical legends—for such evidence as they may afford, support this idea. At a later period, during the fifth and sixth centuries, there is some indirect evidence to show that this was the case. The native Britons sought refuge from the Saxons amongst the mountains of Wales, and many of them fled from thence to the north-western coast of France, called Armorica, which in consequence of this emigration received the name of Brittany, which it has since retained. From Wales they carried with them their Apple trees, and one remarkable instance of their having done so is recorded in the "*Liber Landavensis*." It is thus mentioned by Montalembert in his "*Les Moines d'Occident*," which, translated, says: "When St. Eriue and his eighty monks from Great Britain landed in Armorica (Brittany), and marked the site on which the town which bears his name was afterwards built: they acted just as the soldiers of Cæsar did in the forests sacred to the Druids. They first surveyed the ancient woods with curiosity," says the chronicle: "they hunted everywhere through them, and finding a branching valley with pleasant shade and a stream of clear water running through it, they all set to work . . . frequently replacing the trees of the forest by fruit trees, like the British monk Teilo, who planted with his own hands, aided by St. Samson, an immense orchard—a true forest of fruit trees—three miles in extent in the neighbourhood of Dôl."—(Book vi. p. 394.) Teilo was the son of Tegwedd, who was also the mother of Bishop Afan of Buallic (Builth). She is said to have suffered martyrdom at Llandegveth, near Caerleon. Teilo received his religious education at this college of Iltutus, or Iltyd, situated at the village now known as Llantwit Major in Glamorganshire. Teilo succeeded Dubricius in the see of Llandaff; and on the death of St. David he was appointed to the see of Menevia (St. David's). He placed his nephew Ishmael there as suffragan, and continued himself at Llandaff, with the title of Archbishop. "He is known as one of the three blessed visitors of the Isle of Britain, Dewi (St. David's) and Padarn being the other two. They were so called from the zeal with which they preached the faith in Christ, to rich and poor alike, without fee or reward, and from their deeds of charity."—"Williams' Cymry," p. 133.)

Samson was bishop of Dôl, but it seems there were two bishops of Dôl of the same name, and both were educated at the college at Iltutus. In early life Teilo passed over to Armorica and spent some years with his old fellow student, Bishop Samson of Dôl. The "*Liber Landavensis*" says, "St. Teilo also left there another testimony of his patronage, for he and the aforesaid Samson planted a great grove of fruit-bearing trees to the extent of three miles, that is from Dôl as far as Cai, and these woods are honoured with their names until the present day, for they are called the 'Groves of Teilo and Samson.'"—"Liber Landavensis. Lfr. Teilo. Welsh M.S. Soc." chap. iii. p. 346.) This orchard still existed in the twelfth century under the name of "*Arboretum Teliavi et Samsonis*." ("*Vie St. Brieuc*," by the Canon of La Devision, 1627, cited by La Bordérie). Tradition states that the planting of this orchard first led to the manufacture of cider in Normandy, and certainly no notice of it is to be found until some centuries afterwards, when the cider of Normandy began to attain the celebrity it afterwards gained. Teilo died A.D. 540, and was succeeded at Llandaff by his nephew Oudoceus, also a person of eminent sanctity. Samson died A.D. 599. There are twelve churches in the diocese of St. David's founded by St. Teilo, or dedicated to him, of which Llandeilo Fdwr in Car-

marthenshire is the principal. In the diocese of Llandaff the cathedral is dedicated to St. Teilo and St. Peter, and there are five other churches, including Llanarth, Llandeilo Cresseney, and Llandeilo Pertholly in Monmouthshire.

In the Sarum Missal there is a special blessing for Apples, which is appointed to be used on St. James' day, July 25th, but this form does not appear either in the Missal or Breviaries of the Hereford use.

It must also be mentioned that it is a common belief in the midland counties that Apples are not fit to be cooked until they have been christened by the showers of St. Swithun on July 15th.

From the time of the conversion of the Anglo-Saxons to Christianity, and for many succeeding centuries, even as late as the fourteenth century, the cultivation of fruit was chiefly carried on by the ecclesiastics. The monks were men of peace and study, and living in retired spots depended upon their gardens for much of their food. Through ages of war and bloodshed they pursued their peaceful avocations and cultivated the soil with sedulous industry. Many a monk like Scott's Abbot Boniface of Kennequhair has found great pleasure in the Pears and Apples he had grafted with his own hands. The abbey garden is always observed to occupy the best and most sheltered situation that could be found; and by their foreign connections the monks were enabled to obtain from more favourable climates, not only better kinds of vegetables and more choice fruits for their own delectation, but also valuable medicinal herbs for the treatment of the sick poor in their neighbourhood. The ruins of most of the old abbeys afford to this day proofs of the care bestowed by their former inhabitants in introducing foreign plants. From the gardens attached to these institutions they have often been found by botanists to wander into the neighbouring fields and woods. Asarabacca (*Asarum europæum*) recently found by the Woolhope Club in the Forest of Deerfold is one of these medicinal plants. Thorn Apple (*Datura Stramonium*), Belladonna (*Atropa Belladonna*), Stinking Groundsel (*Senecio squalidus*), the plant always grown in nunnery gardens (*Aristolochia clematitis*), are other examples; and more might be mentioned. As early as 674 there is a record that Brithnot, the first abbot of Ely, laid out extensive gardens and orchards which "he planted with a great variety of herbs, shrubs, and fruit trees. In a few years the trees which he planted and engrafted appeared at a distance like a wood, loaded with the most excellent fruits in great abundance, and added much to the commodiousness and beauty of the place."—"Hist. Eliens. apud Gale," lib. ii. c. 2.)

"The Ancient Laws and Institutes of Wales," published by the Commissioners of Public Records in 1841, which comprise the laws supposed to have been enacted by Howel Dda about the early part of the tenth century, modified by subsequent regulations under the Princes of Wales previously to the subjugation of Wales by Edward I. (1283), give several references to the great value of Apple trees.

In the Dull Gwynedd, the "*Venedotian*," or "*North Wales Code*," book iii. chapter 20, is entitled, as rendered in the English translation, "On the worth of Trees this treats:—"

"Section 8.—Every tree that shall bear fruit is of the same worth as the entire Hazel grove, excepting the Oak and the Apple tree." (*Mem.* A Hazel grove was valued at twenty-four pence.)

"Section 9.—A graft four pence without augmentation until the calends of winter after it is grafted."

"Section 10.—And thenceforward an increase of two pence is added every season until it shall bear fruit, and then it is three score pence in value, and so it graduates in value as a cow's calf."

"Section 11.—A sour Crab tree is four pence in value until it bear fruit."

"Section 12.—And after it bears fruit it is thirty pence in value."

There is no reference to the Apple tree in "*The Ancient Institutes of England*."

In an alleged account of the "*Antient Saxon rite of coronation*" as recorded in the time of Edgar? (959-975), the following passage is given as forming part of the blessing pronounced by the archbishop or bishop at a Saxon coronation:—

"May the Almighty Lord give thee, O King, from the dew of heaven and the fatness of the earth, abundance of corn and wine and oil. Be thou the Lord of thy brothers, and let the sons of thy Mother bow down before thee; let the people serve thee, and the tribes adore thee. May the Almighty bless thee with the blessings of heaven above, and the mountains and the valleys; with the blessings of the deep below; with the blessings of *Grapes and Apples*."

Wild Apple trees were not uncommon in this reign. William of Malmesbury says (lib. ii. cap. 8) that King Edgar in 973, while hunting in a wood and separated from his followers, was overcome by an irresistible desire to sleep, and alighting from his horse he lay down under the shade of a wild Apple tree.

Henry of Huntingdon, in describing a quarrel that arose at the court of Edward the Confessor between two of the sons of Earl Godwin, represents one of them as departing in a rage to Hereford, where his brother had ordered a royal banquet to be prepared. "There he seized his brother's attendants; and cutting off their heads and limbs he placed them in the vessels of wine, mead, ale, pigment, morat, and cyder."—"Henry of Hunt." vol. vi. p. 367.) It must, however, be admitted that although this history was written in 1154 it was not published until 1576 by Saville, when it is possible that the last word "cyder," by that time the common drink of Herefordshire, may have been added.—(*Herefordshire Pomona*.)

HOW AN INVALID GREW SOME ROSES.

OUR garden is small; situation sunny, but much exposed; soil light and sandy. I longed for Roses, but was told I need not attempt to plant any. "They won't grow," said wise friends and experienced gardeners whom I consulted, so for years I had to content myself with bedding plants. I was not content. I loved such plants only with the love any flower can command. You cannot care deeply for things that the first frost destroys, and that must be taken away to be seen no more.

Meantime some little shelter had sprung up round our little flower garden—a Yew hedge on the north side, and a Privet hedge on the south-west. We cannot wholly shut out the east, though the house is to some extent a protection from that quarter. I ventured on buying nine or ten Rose trees from a gardener near who had a small but good collection. They were planted in three of the flower beds, but not all the ground was allowed. "Bedding plants would look well, and would do the Roses no harm." However, in spite of the surrounding parasites the standards did fairly. I had made a beginning. I had gathered Roses.

Waiting another year and still studying my manual, besides corresponding with a practical Rose-grower who recommended the Manetti stock as likely to do better than the Briar on sandy soil, I ordered some standards and some dwarfs. The order included Gloire de Dijon for the east aspect of house, Maréchal Niel and Climbing Devoniensis for the south-west, a dozen or two Hybrid Perpetuals, and two or three of the hardier Teas. The soil was enriched with loam and dressed with good stable manure.

Even here discouragement was at hand with the remark—"You are making the soil too rich: the Roses won't flower." But the Roses did flower. They bloomed better and better every year as I learned to understand them and to treat them carefully; and even with all the drawbacks of soil and situation the blooms were generally fairly good and often positively fine. Now and then I lost a weakly standard, once a dwarf, and never a Tea Rose.

I have now about a hundred varieties. All the bedding plants are routed. The Roses have it all to themselves, save a little space near the windows for Primroses, garden Daisies, and spring Forget-me-nots, and the Geraniums, &c., in autumn.

Being an invalid I am shut up generally at pruning time, but a friendly gardener looks after my trees twice a year, and does what is needful for the Roses.

My first trees were planted in 1873. If anyone should desire to know what Roses do best in such soil as I have described, and what varieties have given me the earliest, the latest, and the sweetest blooms, I shall be glad to communicate my experience to the Journal.—A. M. B.

PETROLEUM OR PARAFFIN AS AN INSECT KILLER—A CAUTION.

I AGREE with Mr. W. Taylor as regards the utility of paraffin oil for the destruction of insects on plants, but I would caution those who use it not to try his recommendation of "one wineglass to a gallon of water." Two years ago I was recommended to try this strength; the result was that it not only killed the vermin but also the plants. It, perhaps, might not be too strong for matured hard wood, but on soft-wooded and tender plants it was destructive. I therefore reduced the strength to a wineglass mixed with two gallons of

water, but found this still too strong, for in watering or rather syringing a row of French Beans wherever the dose had been twice applied they died; but on reducing the strength to a wineglass in a bucket of water I found it most beneficial to all descriptions of plants, and look upon it as one of those things a gardener can use against all kinds of plant vermin—taking care to amalgamate the paraffin and the water with the syringe before each ejection.—G. O. S.

[A wineglassful of anything is an indefinite quantity, there being large and small wine glasses. What is reckoned as a wineglassful among apothecaries is $1\frac{1}{2}$ fluid ounces. All receipts ought to be stated in fixed quantities.—EDS. J. OF H.]

NOTES AND GLEANINGS.

AT the INTERNATIONAL POTATO EXHIBITION held at the Crystal Palace in September last, about thirty new varieties of Potatoes were brought forward by exhibitors who were anxious to obtain for them critical consideration. It was found to be impossible to deal fairly with so many in the brief space of time then at command, and hence there were no certificates awarded. The Committee charged with the task of inquiring into the merits of new varieties have now made their final selection, and have awarded first-class certificates to the two varieties which Mr. Shirley Hibberd has described as follows:—*Radstock Beauty*.—A coloured round, inclining to pebble shape, even and somewhat angular, rarely attaining to large size, the skin tawny white, smooth, and silky. The eyes are few but conspicuous, the side eyes being of a rosy purple colour, with arched brows of the same tint distinctly defined; the eyes of the brown or nose end clustered in a patch of a somewhat darker shade, giving to a good sample an extremely pleasing appearance. The growth is moderate, the produce mostly of smallish ware size, plentiful, and clean; the flesh fine in texture, mealy, dry, and delicately flavoured:—*Woodstock Kidney*.—A white kidney, of oblong shape, extremely even and smooth. The skin is tawny white, silky; the eyes few and inconspicuous, set level with the general surface in a small cluster of dots at the crown or nose end. So regular in form is this variety that a fair sample may be likened to a model turned in a lathe. The growth is moderate and compact, the tubers are plentifully produced and mostly of middling ware size, and are in the very least degree affected by disease. The flesh is yellowish, fine in texture, and of the most delicate flavour. This is, all points considered, one of the finest varieties hitherto submitted to the International Committee.

It will be remembered that the SCOTTISH HORTICULTURAL ASSOCIATION some time ago offered prizes of £3, £2, £1, and 10s., for competition by under gardeners, members of the Association, for the best four plans of kitchen gardens, with fruit, plant, and forcing houses, gardener's house, and offices, complete. We are requested to call the attention of our readers to the fact that the time for forwarding the plans is now at hand—namely, January 1st, 1879. The plans must be sent to the Secretary, Mr. John Methven, 15, Princes Street, Edinburgh.

THE FERN WORLD.—Messrs. Sampson Low, Marston and Co. are about to commence the publication, in a series of shilling monthly parts, of Mr. Francis George Heath's "Fern World." Part I will be ready with the January magazines.

"N. C." COMMUNICATES the following in reference to the FROST AT NENAGH:—"A self-registering thermometer, placed on a stand raised one foot above the snow, fell during the week ending December 14th, four nights to 15° Fahr.; on 14th to 10°; and this morning (17th) it had fallen to zero." The soil is dry. Our correspondent "W. J. M." writing from Clonmel states that the weather has been so severe there as to have killed several shrubs in his garden.

THE dates of the Floral Meetings in connection with the MANCHESTER ROYAL BOTANICAL GARDENS, to be held in the Town Hall next year, are March 18th and April 29th. On the last-named date the Exhibition of the National Auricula Society (northern section) will be held in the Town Hall. The usual Great Show will be held in the gardens at Whitsuntide, and the National Rose Society's Northern Show on July 12th. The Cottagers' show will be held August 4th.

WE have been astonished to see exposed for sale in Covent Garden Market splendid specimens of GOLDEN QUEEN HOLLIES from 6 to 10 feet high, and which have evidently been trained with great care. Such specimens as

these are so valuable that we cannot imagine that nurserymen would thus offer them for sale; and private owners usually cherish such handsome shrubs so highly as to refuse to part with them. From whence are such beautiful and valuable specimens obtained?

— MR. ELLIS writes to us as follows on the SEVERITY OF THE FROST IN THE NORTH:—"At Bothalhaugh, two miles and a half east of Morpeth in Northumberland and four miles west of the sea, the thermometer fell to 10 degrees below zero (42 degrees of frost), on Friday, December 13th. Bothalhaugh is in a very sheltered valley 35 feet above the sea level. There are several places in the neighbourhood where the mercury fell below zero, but none where so many as 10 degrees were marked to my knowledge. This corroborates the experience of the Rev. F. W. Stow, who, in the *Times*, gives the great difference between the temperature on the high ground at his house and that in the valley below."

— THE balance sheet of the NEWCASTLE BOTANICAL AND HORTICULTURAL SOCIETY shows that the total receipts for the year amounted to £2116 15s., and the expenditure, including £238 17s. 6d. due to the Treasurer from last year, was £2238 0s. 7½d., leaving a balance of £121 4s. 9½d. due to the Treasurer. The receipts include the following items:—Subscriptions, £1214 18s. 7d.; admissions—spring show, £184 13s. 6d.; summer show, £469 16s. 7d.; autumn show, £212 0s. 9d. The payments included £649 1s. 6d. for prizes and £373 12s. for music. Messrs. Taylor and French, who have done so much for the Society, have, solely owing to the pressure of their private business, resigned their position as Honorary Secretaries—a decision that was received with unanimous expressions of regret at the recent meeting of the Society.

WORK FOR THE WEEK.

FLOWER GARDEN.

MEN during the present "slack time"—we envy those having one—may be usefully employed in preparing the necessary soil for spring potting, and turning compost for the enriching of flower beds, pushing forward every description of work that will ease that at the busy season. Look frequently over the stock of bedding-out plants. Frost and snow are not favourable to them; the plants can have but little air, and if kept warm they make only enfeebled growth. Avoid that as much as possible by keeping the plants cool, and give no more water than to prevent the foliage flagging. Keep succulents as dry as possible and free from frost. *Verbenas*, *Petunias*, &c., require a rather dry atmosphere, aiming at 45° as a minimum, and excluding frost. *Pelargoniums* should be kept gently moving, nothing is gained by starving them in winter. 45° to 50° is a suitable temperature for the variegated kinds, and 5° less for the green-leaved varieties. *Coleuses*, *Alternantheras*, and *Iresines* require plenty of light and heat, 50° being a minimum, and require to be kept moist and moving during the winter.

FRUIT GARDEN.

Proceed with the pruning and dressing of espalier and wall trees—Apple, Cherry, Pear, and Plum. Pear trees infested with scale may be freed by dressing them with petroleum, applying it with a brush, and American blight upon Apple trees may be similarly destroyed. Tared string is suitable for securing the branches of espaliers, and medicated shreds answer perfectly for securing the branches of wall trees. When the condition of wall fruit trees is unsatisfactory an examination of the roots should be made, especially in the case of unfruitfulness resulting of over-luxuriance, which may generally be remedied by judicious root-pruning, using a sharp knife for the purpose, extracting from the soil the portions cut off, as if left they would probably foster fungoid growth to the injury of the live roots. In the case of exhaustion resulting from overbearing or poverty of soil, the soil should be removed down to the roots, exposing a considerable portion of them, avoiding injuring them in the least degree; and if there be any dead or decayed roots remove them, then cover the roots with turfy loam with a third of thoroughly decayed manure. Tread the soil firm and mulch at once with littery manure. Trees are frequently rendered unfruitful by having the surface roots mutilated with the spade.

FRUIT HOUSES.

Pines.—Preparations must be made for producing ripe fruit during the months of May and June. Smooth-leaved *Cayenne*, Black *Jamaica*, and *Charlotte Rothschild*, which failed showing fruit during October and November, will not now throw up in time to ripen at the period in question, and attention must be directed to such as attain perfection in less time—such as the different kinds of the *Queen*, *Enville*, *Providence*, &c. Choose forthwith those plants which have an enlarged base with a tendency to open at the centre, signs of the fruit being shortly visible, placing them in a light house or pit, affording brisk

bottom heat of 85° to 90°, and a top heat of 60° to 70° at night, and 70° to 75° by day, and 10° more when the external conditions are favourable. A genial atmosphere should be maintained, but do not produce it by steam from the hot-water pipes, as syringing the plants overhead once or twice a week is ample and then very lightly, on fine afternoons damping the house. See that the soil is in a proper condition as to moisture, using tepid water with a dash of guano in it, applying it copiously when required, which will be about every ten days. Former instructions as to plants in other stages will need to be continued as before advised.

PLANT HOUSES.

Conservatory.—This structure will now be gay with Christmas Roses in pots, *Laurustinuses*, *Andromeda floribunda*, early-flowering *Rhododendrons*, sweet-scented flowers such as *Lilacs*, *Violets*, *Roman* and *Paper White Narcissuses*, *Roman Hyacinths*, *Cytisuses*, *Cyclamens*, *Primulas*, *Heliotropes*, *Richardias* brought into flower in heat, the stately distinct flowers of which are very effective; *Epacris*, wintering-flowering *Heaths*, some of the early-flowering *Acacias*, *Azalea indica* vars. flowered in heat; *Camellias*, late-flowering *Chrysanthemums*, *Epiphyllums*, *Lily of the Valley*, *Amazon Lily* (*Eucharis amazonica*), *Hippeastrum pardinum*, *Plumbago rosea*, *P. coccinea* *superba*, *Poinsettia pulcherrima*, *Euphorbia jacquiniiflora*, *Thysacanthus rutilans*, *Centropogon Lucyanus*, *Apelandra cristata*, *A. Roelziana*, *Dalechampia Roelziana* *rosea*, and many other plants which make a very effective display. As some of those are from structures somewhat warmer than conservatories generally a little extra heat should be given, not, however, exceeding 50° by artificial means, affording at the same time increased humidity, the atmosphere of conservatories often being kept too dry for a majority of forced plants, hence their short continuance in good condition in such structures; therefore supply the plants well with water at the roots to compensate to some extent for the loss of moisture by the foliage, and if there be evaporation troughs fill as many as will afford the requisite humidity, which will prevent damping the paths, which should be kept dry and comfortable for the visitors to this structure.

TRADE CATALOGUE RECEIVED.

Shinn & Co., Niles, Alameda County, California.—*Descriptive Catalogue of Fruit Trees.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors" or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

BRIARS (*W. Tipton and E. Thody*).—Write to Mr. Ware, Hale Farm Nurseries, Tottenham, London.

GREEN ROSE (*R. K. and S.*).—It is *Rosa viridiflora*, a well known but not a common plant. It was figured in vol. xxiii., page 132, of this Journal.

LIST OF FRUITS (*J. W.*).—*Pears*: Peach, Fondante d'Automne, Doyenné du Comice, Marie Louise, and Winter Niles. *Plums*: July Green Gage, Purple Gage, and Coe's Golden Drop.

BLACK CURRANTS UNFRUITFUL (*J. W., King's Lynn*).—We think the evil of which you complain is chiefly attributable to imperfectly ripened wood. The shoot you have sent is very immature. If several of the branches are removed from the bushes so as to admit sun and air to the foliage, we think fruit buds would form freely. Perhaps, also, the soil requires draining. The *Primulas* are good, but none of them so dark as the variety you mention. We have no authority to give the address you require, but we know the fruits referred to are produced as stated in the article to which you refer.

AZALEA AMEXA (*Spade*).—Large worms in the pot would so injure the roots and also check the drainage as to cause the leaves to fall from the plant. Dissolve a lump of lime weighing a pound or more in a gallon of water, and when clear water the plant with the lime water. The worms will then come to the surface and may be destroyed. Do not disturb the roots until the plant has flowered, when it may be repotted if necessary. The temperature is right.

CO-OPERATIVE GARDEN STORES (*A. F.*).—We do not know of any stores of the nature indicated. If there are such, a letter addressed to the Manager will be delivered by the postal authorities or will be returned to you.

PETROLEUM AS AN INSECTICIDE (*R. C.*).—I have seen no ill effects resulting from the petroleum reaching the roots of plants, and I do not think there is any danger that the small portion I recommend will harm them, but I generally turn the pot plants on their sides when syringing them. Permanent plants, such as *Stephanotis*, however, have been operated on in an upright position. Besides, we know that some able correspondents have recommended petroleum in a dilute form to be sprinkled freely over *Carrot* beds to check the *Carrot grub*, and, again, it is now a common practice to dress *Peas* and other large seeds with undiluted petroleum. The soil, therefore, in which they are sown must be highly impregnated with it, and nothing but good comes of it as I can testify. Some of my friends have tried petroleum as a fertiliser for *Caulidowers* and other gross-feeding plants, and have thought well of it, but I cannot speak of this from my own knowledge.—WILLIAM TAYLOR.

SLOW-COMBUSTION BOILERS (*R. A. P.*).—Upon due consideration we think our reply will be most useful to you if we avoid direct answers to the questions raised in your letter, and offer a few facts relative to the matter for your guidance. The combustion of fuel in all boilers is slow or fast, very much in proportion to the setting of the boiler and the care shown in

the manipulation of the soot door and damper, both of which are intended to check draught, and the damper is also meant to retain heat about the boiler and to prevent its escape up the chimney. In a saddle-back boiler heating a range of vineries some 80 feet in length, the fire is often left untouched for eight hours, and a given temperature steadily maintained in cold weather by simply leaving only a very slight opening in both soot door and damper, the fire being of course thoroughly established, and the furnace full of fuel and banked with fine well-damped ashes at the time of leaving it. We therefore counsel you to retain your saddle-backs and to apply this hint. Also see if your boilers are well set. The fire should pass under the boiler, back along one side, over the top near the door, and along the other side to the shaft, so as to subject its entire surface to the action of the fire. To ascertain the number of feet of 4-inch pipe required for lean-to houses divide the cubic feet of air contained in the house by 30 for a temperature of 60°, and by 20 for a temperature of 70°. This will afford you sufficient data in calculations for houses of any size or form.

MACHINE FOR WASHING FLOWER POTS (T. W.).—A really efficient pot-washing machine would be a boon to gardeners, and if reasonable in price it would probably command a sale when fairly before the public.

CUCUMBERS BITTER (R. H.).—Bitterness of the fruit often arises from slow growth. If more active root-action can be induced, and the temperature of the house can be raised a few degrees, improvement will probably follow, and in spring the bitterness will probably disappear. The quality of the fruit hitherto having been good affords evidence that the fault is not attributable to the variety.

HEATING BY PARAFFIN STOVE (J. S.).—For preserving such plants as you name—Fuchsias and Geraniums—a temperature of 52° is unnecessarily high. With a good and well-managed lamp and good paraffin there should be little smell from the stove. If you have to make the stove very hot a shallow vessel of water should be placed on it to prevent the atmosphere of the house becoming too dry.

HARDY PERENNIALS FOR FLOWERING THE FIRST SEASON (Somerset).—*Antirrhinum*, *Delphinium* in variety, *Dianthus chinensis* vars., *Pansy* vars., *Verbena venosa*, *Pentstemon*, *Polythronum*, and *Viola*, they being forwarded in gentle heat. All hardy perennials are best raised from seed sown in May or June in the open ground, and they will flower with certainty the year following, *Phlox decussata* and *Adonis vernalis* not excepted. You may readily find the names of hardy perennials by referring to any descriptive seed catalogue.

ANNUALS FOR GREENHOUSE DECORATION (J. X. X. and W. W.).—We presume you mean hardy annuals, which, by sowing in gentle heat so as to forward them, can be had in flower early in the season, growing them in cold frames or with a little heat, it being essential that they have only sufficient heat to keep them gently moving. They must also be kept near the glass to prevent drawing, and have free ventilation to keep the plants sturdy. All the dwarf-growing kinds are suitable, a few of which are—*Asperula azurea setosa*, *Calandrinia grandiflora*, *Alyssum maritimum*, *Collinsia bicolor*, *C. candidissima*, *Clarkia integrifolia limbat*, *C. pulchella marginata flore-pleno*, *Kaulfussia amelloides*, *Nemophila*, *Nolana atriplicifolia*, *Eriogonum bistoria Veitchii*, *Schizanthus pinnatus*, *Silene pendula* and vars., *Whitlavia grandiflora*, and many others. Many of the half-hardy annuals are very effective when grown in pots. The names of hardy and tender annuals may be found in any catalogue.

SEEDS FROM SOUTH AMERICA (E. M. F.).—Your deciphering of the names appears correct, but 3 is probably *Asplenium gelatum*; 4, *Pteris scaberula*; 9, *Coprosma lucida*, greenhouse evergreen, loam; 10, *Pittosporum tenuifolium*, New Holland, loam with a little peat, greenhouse evergreen; 2 is no doubt *Todea*; it and 3 and 5 succeed in a greenhouse temperature, but should be raised in heat, the Ferns requiring to be moist and shaded, and Filmy Ferns, *Hymenophyllum* and *Todea*, constantly wet. The others should be sown in strong bottom heat early in March.

REMOVING BARK FROM VINES (Young Gardener).—We advise the loose bark to be removed; but scraping or peeling, so as to injure the live bark, cannot be too severely condemned. Aerial roots on the stems of Vines are often caused by defective root-action, but are more frequently resultant of a close and moist atmosphere, with frequent damping of the rods.

LAPAGERIA ROSEA (J. P. C.).—We should defer transferring the *Lapageria* to the orchard house until February or March, as the plant from being grown in a greenhouse will be likely to feel the change and suffer from frost if removed now, whereas by another winter it would be more hardy, and would better endure the cold; the roots being well protected it is nearly hardy.

STRAWBERRIES FROM SEED (J. E.).—Strawberries will fruit the following year if raised from seed sown in heat in February, some probably in the autumn of the first year. Slates or tiles should be about 15 inches long by 9 inches wide, placing them on both sides of the plants. Leaves are a poor manure for Strawberries, and no efficient substitute for stable manure, though in a decomposed state are useful. In the fresh state they are worthless, and should be at least half decayed before being employed. We should apply the guano in liquid form, pouring it between the rows after the plants come into flower, one ounce of guano to a gallon of water. You will gain little by raising plants from seed, very likely be much disappointed. Well-rooted runners taken from fertile plants afford the most satisfactory results.

ERRATUM.—The new Pear exhibited by Messrs. Wm. Paul & Son at the last meeting of the Royal Horticultural Society was incorrectly printed in our report *Theresa Nevill*. The correct name of the Pear is *Meresia Nevill*, as in the "Fruit Manual."

NAMES OF PLANTS (Somerset).—*Pinus Pinaster*.

THE HOME FARM:

POULTRY, PIGEON, AND BEE CHRONICLE.

THE MANAGEMENT OF SWINE.

(Continued from page 477.)

WE will refer now to the pens recommended for store stock and fattening pigs. Having previously stated that the meal house, &c., should be in the centre of two ranges of buildings, the range

may be continuous and facing the south, unless from circumstances it may be necessary to take another line, when the building may face the west. We recommend that the building should be 20 feet space and be covered with a pantile roof, and be of the same height as previously stated—that is, the eaves to be 7½ feet from the ground level. A pitched path should be formed in front, raised 12 inches from the ground, in this case for defensive purposes only. In these sties we recommend a feeding path at the back of the shed, 3 feet wide with fixed iron troughs and flap shutters attached for feeding purposes, and communicating with the meal house, boiling house, &c. The divisions of the sties should be of iron, either flat bars fixed at about 6 inches apart and ½ feet in height, or sheet iron galvanised of the same height, the divisions to be 10 feet apart; this will leave after taking off the feeding path, &c., pens of 16 feet by 10 feet. The frontage may be of wood or sheet iron, and having a 2½-foot wicket to each sty, so that from the front earth, litter, and dung may be added or removed as the case may be. These sties will be excavated 2 feet deep below the ground level and feeding path, but the troughs being fixed instead of rising with the manure as it accumulates, a space next the trough 3 feet wide should be left on the ground level to give the pigs a footing level with the feeding trough. The portion of the sties to be excavated will therefore be 13 feet by 10 feet. It is, however, sometimes excavated the whole distance of 16 feet, and then instead of only filling-in about 8 or 10 inches in depth of earth over the whole of the pen, the earth is filled-in 1½ foot in depth in front of the troughs, giving a footing for the animals at feeding time, and an absorbent floor throughout. This in daily use will be littered with straw or other materials as cleanliness dictates, and be allowed to accumulate as long as convenient, but the dung should not be allowed to remain in one spot, but be spread over the pen each time that fresh litter is applied. A boar's pen may be placed at the far end of the building entirely separate from the other pens, the feeding trough being in the same range. An off pen adjoining, however, should be made for use (when a sow pays the boar a visit), with a wicket 2½ feet wide leading out of the boar's pen. The division between the boar's pen and the adjoining pen should be carried up to the cross beam—that is, 7½ feet from the ground level. The animal may then lead a quiet life without being disturbed by the other stock, and be fed with a moderate diet of vegetable food and cracked beans, or peas, or beanmeal.

We will now refer to the young pigs after being weaned. The sows having been removed from them and placed in a yard where dung is stored, the young pigs may be fed in the same pen, and there remain until they are old enough to be fed for fattening and be placed in the fattening sties before named. The food should now be in accordance with the time they will be required for killing. If for quarter pork of light weights, say from 60 lbs. to 80 lbs. each, they cannot be kept too high immediately they are weaned, and upon farms where butter or cheese-making is carried out there will always be a portion of whey or buttermilk available. This with barleymeal and a slight addition of bean or pea meal will make them fat in a short time, and afford meat of the best quality with a fair proportion of lean and fat combined. In the winter months the food should be given warm. When the pigs are required to be kept for a time as store animals, we object to their being allowed to run at liberty about a farmyard as they often are; first, because we know nothing of a farmyard except as a temporary manure store, and this under our advice should be occupied by the breeding sows as before stated; secondly, these animals we look upon as manure-making machines as well as profitable stock on the home farm; therefore, when they are kept in pens as before stated they will not only have left their manure in the most available state, but their health will be insured as far as management can contribute to it; at the same time their well-doing will be assured by the warmth and comfort of the pens, because warmth and regularity of temperature must always be considered an equivalent to a certain amount of food. When the pigs are required to be kept on for bacon at weights about 200 lbs. each, they should be removed to the larger pens, where plenty of room will be found for feeding, placing about six animals in each pen. Up to the time they reach seven months old they may be fed with cracked beans, peas, or maize about twice a day, and in addition during the summer months they may have a liberal allowance strewed over their pens of green fodder, such as trifolium, vetches, clover, and the cutting of borders containing hog weed, cow parsley, and coarse grasses, followed in the autumn by the earliest roots, such as carrots, turnips, and Swedes, also cabbages—in fact, anything except mangolds, which we reject altogether, as we have often seen young pigs killed by their use, and after death the lungs have been found decayed and often turned a black colour. This mode of feeding will keep the stock in a growing state, the beans and other broken grain contributing a good foundation for future fattening by making a good proportion of lean flesh, and the manure made will be good, because any portion of the green fodder not consumed will be trodden down and improve the accumulating manure.

When the store pigs are about six or seven months old they

may then be put to good food for fattening, and instead of green fodder eaten with beans, &c., they should have all trough food. In winter time it should be warm or cooked food, such as boiled potatoes, carrots, cabbage, &c., as much as they can eat without waste. These mixed with barley meal and bean or peameal will make meat fast enough and of good quality after about eight weeks' feeding. For the last fortnight of the period they should have meal only, this will make the meat firm and improve the value for consumption. We cannot however, leave the subject without referring to a method of feeding whereby a farmer of our acquaintance fed annually over one hundred hogs up to 200 lbs. each for a bacon factory, and they gave good satisfaction, being fed with mangolds cut and placed in troughs with meal alternately, and he assured us that it paid him better than any other mode of feeding he had ever adopted during the summer months. The mangolds were the produce of the previous year. We cannot contradict such evidence, but we may improve upon the mode of feeding by pulping the mangolds, adding the meal to make a pudding instead of giving the mangold and meal separately. In this way mangolds may, we consider, be used with safety and profit by pigs of full age, but not for animals under four months old. In the instance we have given the pigs made excellent bacon when finished-off by a fortnight's feeding with meal only.

When young sow pigs are reared for breeding purposes those should be chosen which have not less than twelve teats. The selected animals may when weaned be kept upon the same food as the pigs held on as stores for bacon, but they may have more liberty and be kept in a yard and store for manure as recommended for the aged sows. Sows will usually continue to breed until they are four or five years old with advantage, but care should be taken that they may be expected to farrow in the months of March and September.

The sort of pigs to be kept should be in accordance with the district and the climate, for nearly every county in the United Kingdom has a breed which is preferred by the farmers of the district. The most prominent stock, especially for exhibition purposes, are the large Berkshire, the smaller Sussex, and Improved Dorset as black pigs; but the white breeds are the large Yorkshire, the smaller being chiefly of the Middlesex and some other sorts; but for general purposes, instead of confining ourselves to distinct breeds we prefer judicious crossing both the larger and smaller breeds of the same colour. We cannot enter into the merits of different breeds on the present occasion.

WORK ON THE HOME FARM.

Horse Labour.—This is the dulllest time of the year for horse labour. Although tillage operations have been at a standstill during the late frosty and changeable weather, yet there is always work of some kind which may be found for the horses, such as carting gravel for the repairs of the roadways on the home farm. These repairs are too often done in a negligent manner. Whenever gravel is applied, and especially when the road is only wide enough for one vehicle to pass, it should be laid only in the middle of the road, extending to the wheel track on either side. The road will then be kept in shape, particularly when so made that the water can pass away freely. When the land is firm enough to bear the carts without cutting the surface long fresh dung may be laid out on the clovers and pasture land, and if the frost is hard manure may be drawn on to the land which has been stetched or banked up in readiness for the mangold or potato crop. The land will afterwards only require to have the stetches reversed and be ready for seeding and planting at the earliest season in the spring. When the horses cannot work on the land by dung-carting, &c., they may be employed in making heaps of earth in a convenient place in readiness for carting to farm buildings whenever earth floors for cattle pens, &c., are in use. All corn in the barns should now be threshed to prevent damage by rats and mice, for they are sure to increase rapidly from this time forward if the corn is allowed to remain. A large number of the rats may be killed by ferreting, but the mice are more difficult to deal with. The odd horse or horses will also be employed in carting roots from fields or pits for horse and cattle feeding, &c.; also carting hurdles for the shepherd, as the sheep will now be feeding off roots upon the land. When the sheep tread the land too much—as they often do when the weather is very wet, and especially upon the breaking-up of frost—the stock cannot feed roots on the fields without injury to the land for the next crop. In such cases the roots may be carted to a dry pasture for a few days' feeding. The carting of straw and hay for stock will also be going on; at the same time the straw and hurdles necessary for making a lambing fold for the ewes must employ the odd horse for portions of the day. The shepherd will know how to place the fold, as it should be near to some shelter by hedges or woods with a convenient drift way, &c., unless it is made on some part of the farm premises which will secure shelter and convenience also.

Hand Labour will now consist of cutting and plashing hedges, making banks and ditches, and attending to the outfalls of drains. The work of draining in the fields may now be done, as it is

easier to command a sufficient number of men for the work with out displacing valuable labour in the spring. The present season is more favourable than it usually is in the winter months for draining. We notice the subsoil is drier than the surface, thus facilitating the labour of underground draining. We shall not enlarge upon the subject at present, as we intend to treat of the drainage of different soils as a leading subject on a future occasion; we will, however, remark in passing that draining, although it may be done piecemeal, yet there ought always to be a plan showing the depth and distance apart of the drains. This calls to our mind that having some years ago set out and completed the draining upon a home farm, and having also furnished a plan of the drains in each field, the property was afterwards sold. The new proprietor, without reference to the plans of draining and the outlets, grubbed the hedges and filled in the ditches, which blocked the drains. Since then we have always been particularly cautious by calling attention to the fact that no underground draining ever ought to be done without being shown on a map or plan. It is now that the labour of women and lads is valuable in preparing roots for the cutter for feeding cattle and sheep, but we do not find that the women and boys are to be had as they used to be. We once never thought of employing men for such easy work where agility is so important, the men not being able to do more work than the women and boys, although receiving double the wages. The young store cattle, particularly heifers of one and two years old, where fed in yards and sheds, will require not only regular feeding with roots and straw or rough hay, but constantly fresh litter of dry straw; even this will not make a comfortable bed for them without the sheds and yards have been bottomed with earth for absorbing the liquid manure. This matter, therefore, should have attention, as it tells favourably both for manure and the comfort of the stock. On some home farms wood-cutting will now be going on, and it is advantageous to have this work completed by the middle of February, because the sap begins to rise in the underwood stools about that time, and the carting of the underwood can be done whilst the horse and manual labour is least valuable. The cutting of timber for repairs also should now be done, it being desirable that when the timber is required for repairs upon the home farm it should be cut in the winter time before the sap rises; even oak timber will be more enduring if cut now than when cut for the purpose of taking off the bark in the spring. It is now also that the carting away both of timber and the made-up underwood can be done without delaying more valuable labour, except in the case of very wet woodland or gullies, when the carting may be deferred with advantage until drier weather in the spring.

SHOW OF THE SURREY COLUMBARIAN SOCIETY.

THE newly-formed Surrey Columbarian Society held their first Show on the 10th and 11th at Guildford. The entries numbered 180, and the Show was a singular success for a first attempt. It was held in a well-lighted hall in the Commercial Road, which, being over the Turkish Baths, was of a most pleasant temperature—no small advantage in the present weather alike to exhibitors and Pigeons. Mr. Esquilant was the Judge, and we believe pronounced some of the classes excellent, specially those for Carriers. There were two special prizes: the one for the best bird in the classes for Carriers, Pouters, Barbs, and Fantails; the other for the best bird in the rest of the Show. The former went to Messrs. Cucksey & Flicker's Black Carrier hen; the latter to the first-prize little Red Turbit, the cup bird in the young Turbit classes at the last Crystal Palace Show.

Carriers had four classes. Cocks were very good. First a Black, second a Dun, with the finest wattle in the class, but a little short in body. The first hen was a very good Black. There were two well-filled classes of young birds. Pouters were few, but the first-prize bird good. Barbs were a good class. We thought the second-prize bird a very promising young one. Fantails were decidedly good. First went to the little White hen with beautiful carriage that took the cup last year at the Crystal Palace. Second to the flat-tailed cock which took the cup there this year. Tumblers were chiefly Kites, and not remarkable. Dragons.—The first-prize bird—a Blue—was well ahead of the rest. Turbits were interesting from the three prize birds being all celebrated winners shown against each other. First the little Red before mentioned as winner of the special prize. Second a Yellow hen celebrated for her frill and winner of many cups. Third a Black, and first at the Crystal Palace one year. Owls.—First and second were beautiful little White Africans. Second was the Palace and Birmingham winner, while the first hen was second at the Palace. Third an English Powder Blue, lovely in colour but deficient in head properties. Jacobins were not good. Short-faced Antwerps a well-filled class, and the winners very fair. Homers number about fifty. In the Any variety class rich-coloured Archangels were first and second, and a large Silver Runt third.

We must congratulate the promoters of this Show on the excellent management of their first attempt, and hope to see many more such on a still larger scale. We subjoin the prize list:—

PIGEONS.—CARRIERS.—Cocks.—1, 2, and 3, Cucksey & Flicker. *Hens*.—1

3. and Special, Cucksey & Flicker. *Young Cocks*.—1, 2, and 3, Cucksey and Flicker. *Young Hens*.—1, 2, and 3, Cucksey & Flicker. *POTTERS*.—1, A. Allen. 2 and 3, C. H. Buckland. *BARBS*.—1 and 3, Cucksey & Flicker. 2, A. Allen. *FANTAILS*.—1 and 2, O. E. Cresswell. 3, Burdett & Walker. *TUMBLERS*.—1 and 3, J. W. Savage. 2, J. Bakewell. *DRAGONS*.—1, A. Allen. 2 and 3, R. Osborn. *TURBITS*.—1, 2, 3, and Special, O. E. Cresswell. *OWLS*.—1 and 2, W. E. Hutt. 3, O. E. Cresswell. *JACOBS*.—1 and 3, W. E. Hutt. 2, J. W. Savage. *ANTWERPS*.—*Short-faced*.—1, C. H. Buckland. 2 and 3, Cucksey and Flicker. *Homina*.—1 and 2, J. W. Barker. 3, J. W. Barker. *F. W. Benham*. 3, C. H. Buckland. 4, E. Johnson. 5, J. B. Kendrick. *ANY OTHER VARIETY*.—1 and 2, O. E. Cresswell. 3, W. Kent. *SELLING CLASS*.—1 and 3, Cucksey & Flicker. 2, W. E. Hutt.

THE KERRY BREED OF CATTLE.

FROM time immemorial Ireland has possessed a hardy, handsome, and valuable breed of cattle, although small in point of size. This is known as the Kerry breed, and it has retained its best characteristics notwithstanding that it has been treated with comparative neglect. Its value is now, however, better appreciated, and more attention has been paid to the development of its special characteristics. These are the production of a large yield of rich milk, taking the size of the cows into consideration, and when fattened of beef of rare quality. The Kerry cow is particularly well adapted for villa farming, as she is extremely docile, is easily kept, and produces milk rich in quality and in considerable abundance. We have known many instances in which Kerry cows have given sixteen quarts of milk daily for a considerable time after calving, and twelve quarts of milk per day may be reckoned a fair average when the cow is fairly fed. The milk is rich in quality and produces a good proportion of butter, say 7 lbs. per week as a rule; and when it becomes necessary to fatten her for the butcher the process is an easy one, whilst the quality of the beef is such that a Dublin butcher, whose customers are amongst the better classes, will always give 1d. a lb. more for it than for a fattened cow or heifer of any other breed. When fat the Kerry usually weighs about 4 cwt.

The fashionable colour of the Kerry cow is pure black, but some are red, especially in the case of the Dexter variety. The true Kerry is described in Pringle's "Review of Irish Agriculture," published in the Journal of the Royal Agricultural Society of England, as "a light, neat, active animal, with fine and rather long limbs, narrow rump, fine small breast, lively projecting eye full of fire and animation; with a fine white cocked horn tipped with black." The Dexter variety "has a round, plump body, square behind; legs short and thick, with the hoofs inclined to turn in; the head is heavy and wanting in that fineness and life which the head of the true Kerry possesses, and horns of the Dexter are inclined to be long and straight." The Dexter appears to be a

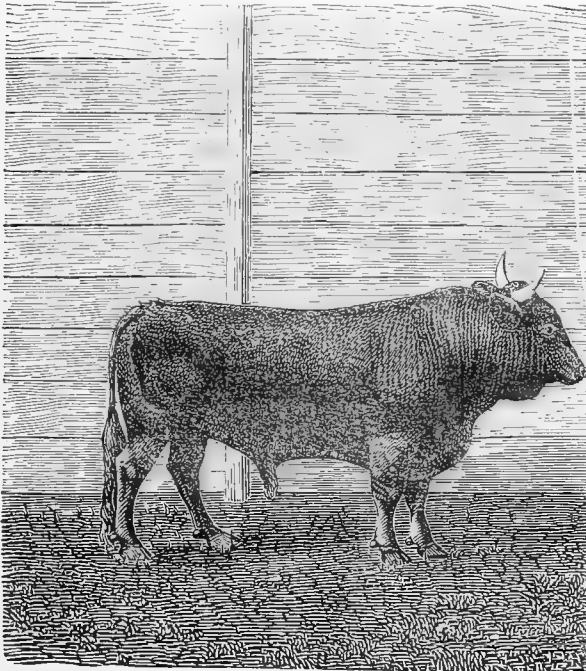


Fig. 74.

BUSACO, the property of Mr. James Robertson, La Mancha, Malahide, Co. Dublin. The first-prize Kerry bull at the Royal Dublin Society's Shows in 1875, 1876, 1877, and 1878; also first at the Royal Irish Shows at London—Kerry in 1875, Cork in 1876, Galway in 1877, and Dublin in 1878.

variety originally produced by selection, but whilst possessing its peculiar points it retains the milk and meat-producing properties

of the breed from which it sprung and to which it is justly regarded as belonging.

Mr. James Robertson, La Mancha, Malahide, Co. Dublin, has for some years devoted much attention to this very nice breed of cattle, and many persons in England have now become familiar

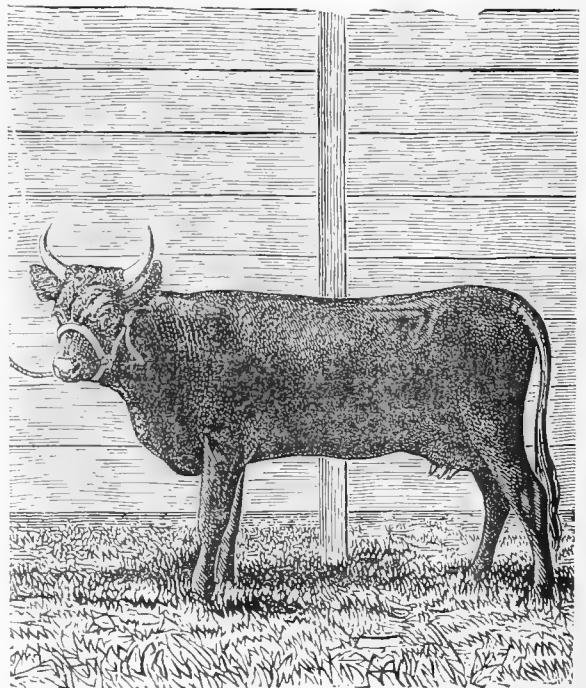


Fig. 75.

MISTLETOE, the property of Mr. James Robertson, La Mancha, Malahide, Co. Dublin. The first-prize Kerry Cow at the Royal Irish Show held at Cork in 1876.

with it through the excellent specimens which Mr. Robertson has occasionally exhibited or sold in England, and especially through the many handsome Keries which he exhibited last June at the International Show at Paris, where he was awarded a number of prizes. Mr. Robertson's bull Busaco has won seven or eight first royal prizes in Ireland, in fact he has never been beaten, although he had at different times to contend against superior animals of their kind. When Busaco was two years old he stood 34 inches in height at the shoulder, girthed 50 inches; while the length from the top of the shoulder to the tail was 38 inches.

VARIETIES.

WE have before us several fresh schedules of forthcoming Shows. The Stockport Show is fixed for January 10th and 11th. There are twenty-three open classes for poultry, with three prizes in each of £2, 15s., and 5s. In these classes the birds are shown in pairs. There are also forty-six local classes, in which the birds are shown singly. Pigeons have nineteen classes, all open, and are shown singly. There is a Dog Show in connection with the Poultry Show.

THE Reading Pigeon and Cage Bird Show is fixed for January 22nd and 23rd. There are no less than forty-six classes for Pigeons. Carriers have five classes, Pouters six, Dragons five, Antwerps seven, Tumblers three, Owls four, Turbitts three, &c. Canaries have twenty classes, Mules four, British birds six, Foreign birds four. We know by experience that the Reading Show hall is always well heated, and that delicate birds can be entered there with confidence.

WE quoted last week from the *Daily News* about the migration of British birds. Mr. O. E. Cresswell writes to us that he has lately seen in his garden, on the borders of Berkshire and Surrey, a rare British bird—the small spotted woodpecker. He has watched it day after day in apple trees, and on a green bank; apparently it is a bird of this year, not yet having its scarlet crest.

STRAW HIVES AT CRYSTAL PALACE SHOWS.

ON page 440 of the present volume of your Journal I find Mr. Pettigrew has endeavoured to support his statement in regard to the above subject by dragging my name forward to support his recollection of a conversation which he says he had with Mr. Bagshaw four years ago. His statement that straw skeps

were refused admission to the Crystal Palace Shows is a perversion of facts which Mr. Bagshaw, who is "a gentleman of unimpeachable veracity," very properly declines to support, either by his own word or by the production of documentary evidence.

That Mr. Bagshaw wrote to me several times I admit; but that in reply I ever wrote a single word which would admit of the construction Mr. Pettigrew puts upon one or the other, I utterly deny. Indeed from the first I had no such one-sided idea. The proposal to hold a Crystal Palace Show originated at my own fire-side. The first idea was simply to hold a meeting of bee-keepers, and after dining to discuss bee matters and make friendships. A proposition was made to that effect in the "British Bee Journal" of October 1, 1873. On January 1st, 1874, a first list of subscribers was published in that Journal, followed on the 1st of February by a proposed schedule of prizes subject to alteration. In the second class in its list, marked *b*, a prize was awarded of £2 and certificate "for the best skep or box hive for depriving purposes," and there were four other classes, *c*, *d*, *e*, *f*, and in which the straw hivist could have competed if he had chosen to do so, the prizes being of the same value.

Mr. Pettigrew at that time made no objection to them, though during the spring months his friends did what they could in the *Journal of Horticulture* to bring the movement into discredit. Mr. Symington replied in the "British Bee Journal" to a letter of Mr. Bagshaw's which appeared in the *Journal of Horticulture* on March 19th, 1874, explaining the nature of the proposed Crystal Palace schedule, and plainly showing that skeps could compete in four classes for hives and sixteen for honey. A copy containing Mr. Symington's communication having been sent to Mr. Pettigrew, how can he ignore it and charge the promoters of the shows with having excluded straw skeps therefrom?

Now up to this time the British Bee-keepers' Association had no existence, but I had received upwards of £70 towards the prize fund of the proposed show, and I then invited all those who had subscribed to a meeting at Camden Town, where I hoped "not only to revise the schedule of prizes to be offered, but to lay the foundation of a national society for the promotion of bee culture." The meeting took place accordingly on May 16th, 1874, and the British Bee-keepers' Association started into existence. But there was no alteration of the schedule that would exclude the skep or its produce from competition, though Mr. Hunter, in his eagerness to provide or cause to be provided a hive that should be within the reach of all cottagers, carried a motion which added to the wording of class 2, and made it read—"For the best skep or box hive for depriving purposes that can be supplied for 3s., exclusive of floor board, prize £2 2s. and certificate."

The Show was held, and it was a great success. Amongst other reports of it which appeared in the *Journal of Horticulture*, alluding to class 2 as above described, the writer says, "Some very good straw skeps were shown. One (No. 9) exhibited by W. Martin even was fitted with bars, but the prize in the class was we think justly awarded to Mr. C. N. Abbott for a veritable Woodbury, price 3s., with many improvements," &c. Thus we have Mr. Pettigrew denying documentary evidence which must have come under his notice. In the schedule of the Association for the second great exhibition at the Crystal Palace in 1875, prizes of 20s. and certificate were offered "for the best and cheapest skep for depriving purposes." The first prize was carried off by Messrs. Neighbour with a Pettigrew hive at 4s. 6d., Mrs. Pagden coming in second with her neat little skep at 1s. 9d. These are facts, and "facts are stubborn things."

I am sorry for Mr. Pettigrew's sake that he has rendered it necessary for me to ask you to publish these facts; but for the implication of my name I should have taken no notice of this subject. Those who desire a more minute understanding of my meaning should refer to Mr. Bagshaw's letter on page 91 of the *Journal of Horticulture*, 1874, and to the scorching denunciation with which his defence of the Manchester swindle was met in the succeeding week, page 113, by the straightforward steady and true aparian, "B. & W.," who does his best to keep the common weal of bee culture up to the times.

I remember that before the first Crystal Palace Show, 1874, took place Mr. Bagshaw asked me in a letter if in class 8, "For the largest and best harvest (of honey) from one stock of bees under any system or combination of systems," he could bring to the show the produce of a stock, and of all the swarms that had issued from it; and, it being our first show, I preferred to let the matter be decided by the Committee, which must have been appointed or I could not have been the "treasurer," and in my reply I probably said his query was a "poser" which the Committee must decide upon, and doubtless from Mr. Hunter's hands he received the desired information.

That Mr. Pettigrew perfectly understood the position of affairs, and took in the whole situation, may be best gathered from his "proposed schedule of prizes for the Manchester Show" wherein the first set of prizes in class A were offered "For the largest and best results obtained from one stock of bees managed on any system, either swarming or non-swarming," the prizes being respectively 80s., 40s., and 20s. Unfortunately the season 1875 was a very bad one, and as a consequence the thing collapsed. In the

schedule first referred to, written by Mr. Pettigrew, prizes were offered in class 9 "for the best and neatest observatory or unicombed hives" to the amount of "60s., 40s., and 20s.;" and in class 10, "for the most ornamental hive of glass, or glass and wood," prizes were offered, in Mr. Pettigrew's own hand, to the value of 40s. and 20s., with the stipulation that in both instances the hives were "to be exhibited with bees in them." Further on, in class 13, he proposed a prize of 20s. "for the best bar-frame hive," and an equal amount for "the best straw hive." Later, in the same schedule, he offered prizes of the value of £5, £2, and £1 respectively "for the best and largest collection of hives, bee furniture, and other necessities for an apiary;" and in the last class No. 10 offered 20s. "for a collection of the best and cheapest supers (empty) for general use in an apiary." This occurred in May, 1875, yet now in 1878 Mr. Pettigrew alludes to the outcome of the great show by the British Bee-keepers' Association at South Kensington in August last as "puffed-up novelties," though the text in their schedule was almost identical with his own in respect of the foregoing, and the meaning undoubtedly the same. I have no desire to comment on Mr. Pettigrew's method of teaching; and as it will be evident to the meanest capacity that he and I are not in the same boat, I need say no more than that I have felt it necessary, by a plain statement of facts, to clear the air during this dull season, that he may not in darkness or ignorance run the stem of his craft into the stern of mine.—C. N. ABBOTT.

[We have been obliged to omit much of Mr. Abbott's communication, which was discursive, both from want of space and from its irrelevancy; confining it entirely to the subject in dispute.—Eds. J. or H.]

OUR LETTER BOX.

BRITISH BIRDS (*Col. Bulger*).—We regret that we cannot remember the dates of the papers you require. They would, we think, be a portion of the week's issue previously to that in which the articles appeared in this Journal.

CANARY MOULTING (*Stamford*).—Your bird certainly should not be losing his plumage just at the season when it is most required. If your pet is kept in a room where fire or gas is used this, in a great measure, will account for the continual casting of feathers. In its semi-weekly condition it would be hazardous to life to remove the bird into a colder temperature just now. If the cage is suspended high up in the room, lower it some couple of feet, and at night time cover it over. Spurt on the bird with your mouth a little sherry wine, and place in the bird's drinking vessel some scraped liquorice. The "great variety of extras" may have tended to upset the bird's system; in other words, you are killing your pet with kindness. Excepting occasionally treating your bird with a little biscuit and lettuce seed, let its food consist of the seeds you have named, but scald the rapeseed before supplying it; also a piece of salt to peck at, and plenty of grit sand and fresh water. The best way to keep birds in good health is to give them good sound seed and pure water, and keep them in an even temperature free from draught.

SUDDEN DEATH OF CANARY (*A Merry Christmas*).—We cannot fully account for the sudden termination of your Canary's life. Such mishaps are of everyday occurrence through fits and other causes. Like other animals birds are subject to diseases of various kinds, and from your description of the attack which brought about its death it is just possible your bird might have died through heart disease. You did wrong by keeping the two birds "in one cage all the year round," more especially as you state "the birds have been fighting a good deal of late." Instead of promoting harmony you have allowed them to encourage their pugnacious propensity until the weaker of the two has gone to the wall. Such excitement would naturally bring about prostration, and the holding of the bird before the fire would hasten death through suffocation. We cannot attribute the cause of death to the small quantity of hempseed you gave, especially as the hen bird, which is strong, partook of the same food. We advise the keeping of the sexes separate until the proper time for pairing them to breed; then it is more likely the birds will pay due respect to each other.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

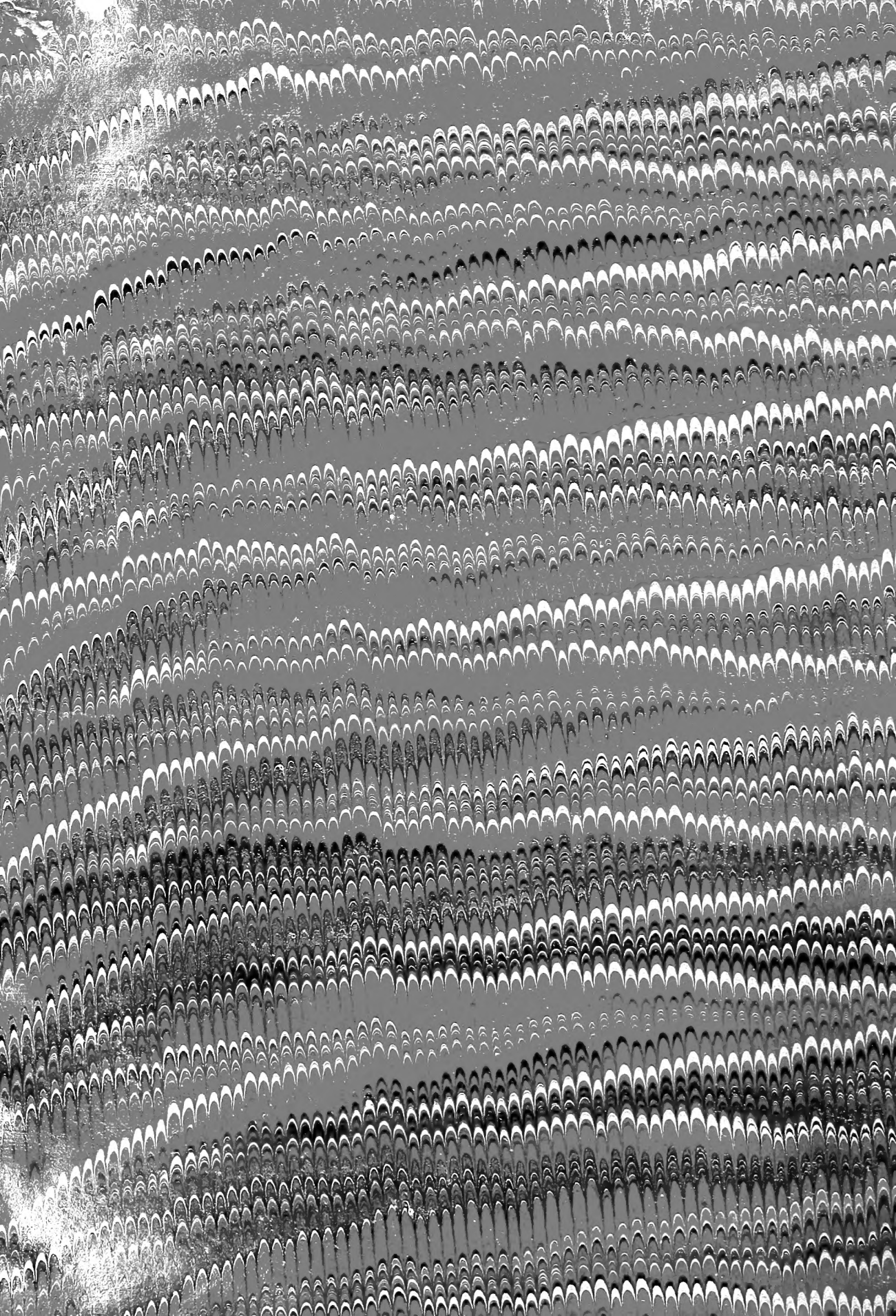
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.						Rain.
1878.	Barom- eter at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp of Air at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
Dec.		Dry.	Wet.			Max.	Min.	In sun.	On grass		
We. 18										Inches.	
Th. 19	29.360	57.0	35.5	S.W.	33.6	39.3	23.3	52.0	21.8	0.060	
Fri. 20	29.187	33.0	32.4	N.W.	33.7	37.6	30.3	52.8	26.5	—	
Sat. 21	29.493	31.5	31.4	N.E.	33.6	35.7	29.4	35.0	25.2	—	
Sun. 22	29.782	28.3	28.4	N.W.	33.6	32.5	27.4	38.5	28.3	—	
Mo. 23	29.782	32.4	32.1	W.	33.2	33.4	27.7	34.8	24.2	0.068	
Tu.											
Means	29.721	32.4	32.0		33.5	35.8	28.0	42.6	25.2	0.128	

REMARKS.

18th.—Bright clear day with sunshine, snow all disappearing.
19th.—Very clear fine day, bright sunshine; cold starlight night.
20th.—Thick and very dark all day.
21st.—Clear and cold dry day, intervals of sunshine; rather thick in afternoon; starlight evening. Snow in night but not deep.
22nd.—Fair but dull morning, snow till 11 A.M., and heavy from noon till 4 P.M., total depth 1½ inch. Fine and clear at night.
The frost continues, and though not severe is becoming noticeable for its duration.—G. J. SYMONS.





New York Botanical Garden Library



3 5185 00313 3830

